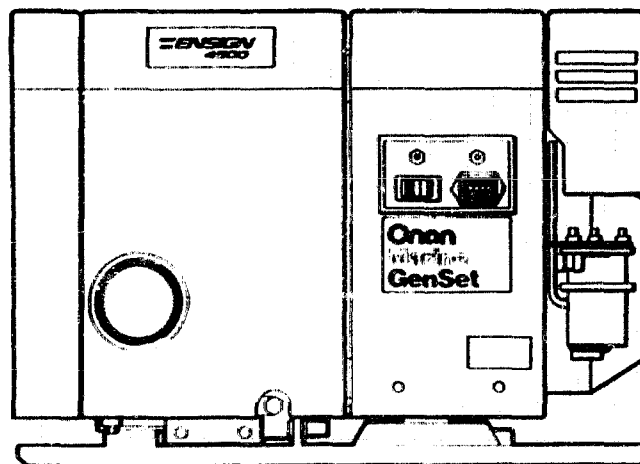


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**Onan**

# **PARTS CATALOG**

## **MCE Ensign Generating Set**



**Marine Electric Generating Set**

927-0225  
4-91 (Spec A)  
Replaces 2-90 (Spec A)  
Printed in U.S.A.

## SAFETY PRECAUTIONS

The following symbols are used in Onan manuals to alert users to the potentially dangerous conditions relating to maintenance of the equipment and replacement of parts. Please read and observe.

### **⚠ DANGER**

*This symbol warns of immediate hazards which will result in severe personal injury or death.*

### **⚠ WARNING**

*This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*

### **⚠ CAUTION**

*This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

## MODEL IDENTIFICATION

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO., and SERIAL NO. from the Onan nameplate.

For handy reference, insert your nameplate information in the spaces below:

MODEL AND SPEC NO. \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

## PRODUCT SAFETY PRECAUTIONS

### **⚠ WARNING**

Contact with USED ENGINE OILS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking or changing engine oils take all necessary precautions not to ingest, breathe the fumes or contact the used oil.

### **⚠ WARNING**

Contact with ASBESTOS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When handling engine gaskets take all necessary precautions not to ingest, breathe or contact the dust from the gaskets! Use adequate ventilation and wear protective gloves, masks and clothing!

### **⚠ WARNING**

Contact with BENZINE and LEAD, found in gasoline, fuel additives and solvents has been identified by a United States federal agency and some USA agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking, draining or adding gasoline and fuel additives, or using solvents take all necessary precautions not to ingest, breathe the fumes, or contact the liquids. Use adequate ventilation and wear protective gloves, masks and clothing!

## Introduction

This catalog applies to the standard Marine Generator Sets as listed in the Generator Set Data Table. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Unless otherwise mentioned in the description, parts are interchangeable between models. Parts illustrations are typical. Using the model and specification number from your generator set nameplate, select parts that apply to your set. Right and Left sides are determined by Facing the engine (front) of the set.

### Generator Set Data Table

MODEL AND SPECIFICATION	ELECTRICAL DATA						KEEL COOLING
	WATTS	VOLTS	HERTZ	WIRE	PHASE	FUEL	
4.5MCE-A/1A	4500	120	60	2	1	Gasoline	
4.5MCE-B/1A	4500	120/240	60	3	1	Gasoline	
4.5MCE-A/35887A	4500	120	60	2	1	Gasoline	X
4.5MCE-B/35887A	4500	120/240	60	3	1	Gasoline	X
5.0MCE-M/1A	5000	220	50	2	1	Gasoline	
5.0MCE-M/35887A	5000	220	50	2	1	Gasoline	X
6.5MCE-A/1A	6500	120	60	2	1	Gasoline	
6.5MCE-B/1A	6500	120/240	60	3	1	Gasoline	
6.5MCE-A/35887A	6500	120	60	2	1	Gasoline	X
6.5MCE-B/35887A	6500	120/240	60	3	1	Gasoline	X

\* - The diagonal line (/) in the model and specification number separates generator set characteristics from the specification number and letters. The specification number denotes customer requested options or deviations from a standard (1A, 1B, etc.) model. The specification letter advances (A, to B, to C, etc.) with major manufacturing changes.

#### NOTE:

Components Sold As An Assembly Will Be Assembled At The Factory.

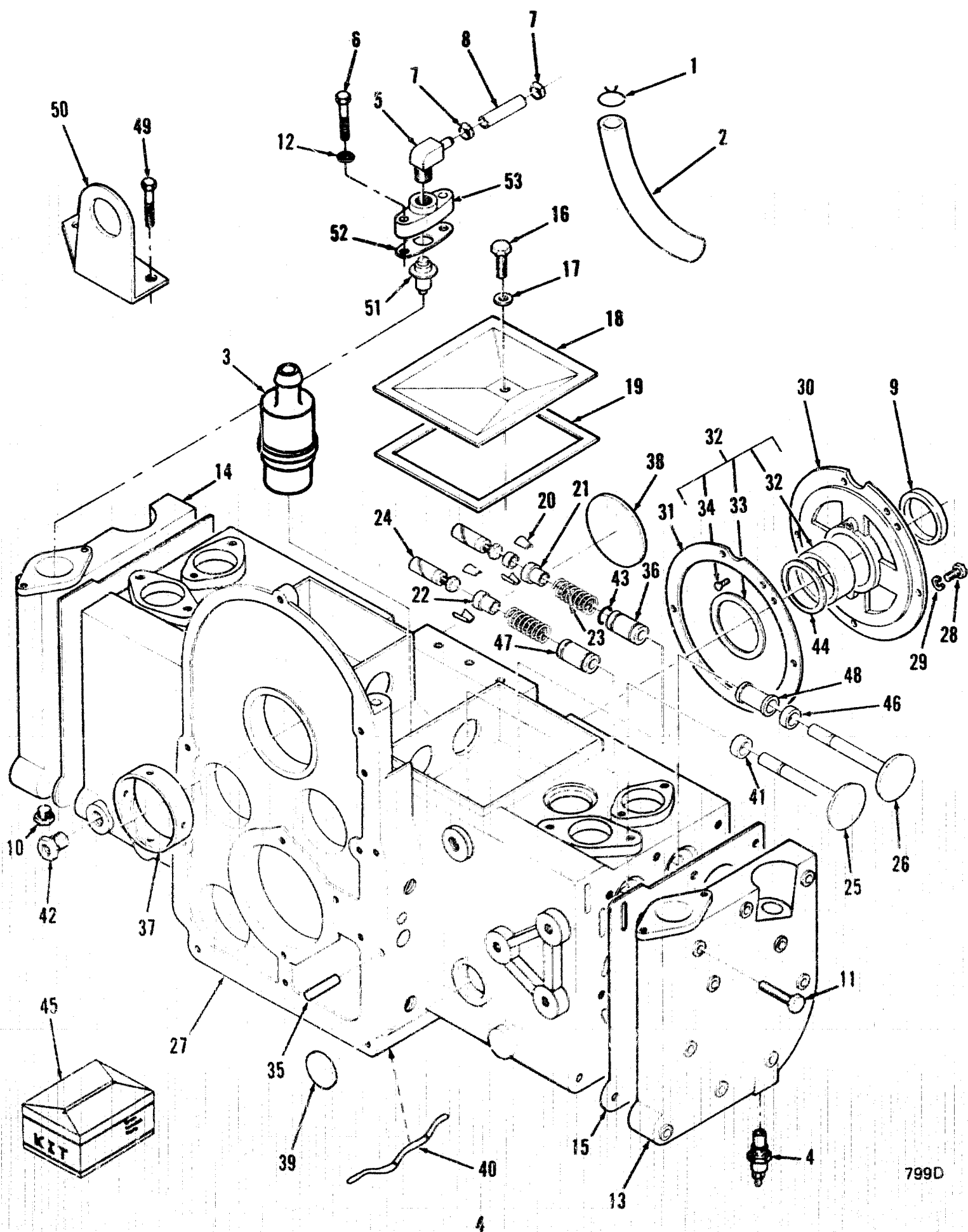
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# Cylinder Block



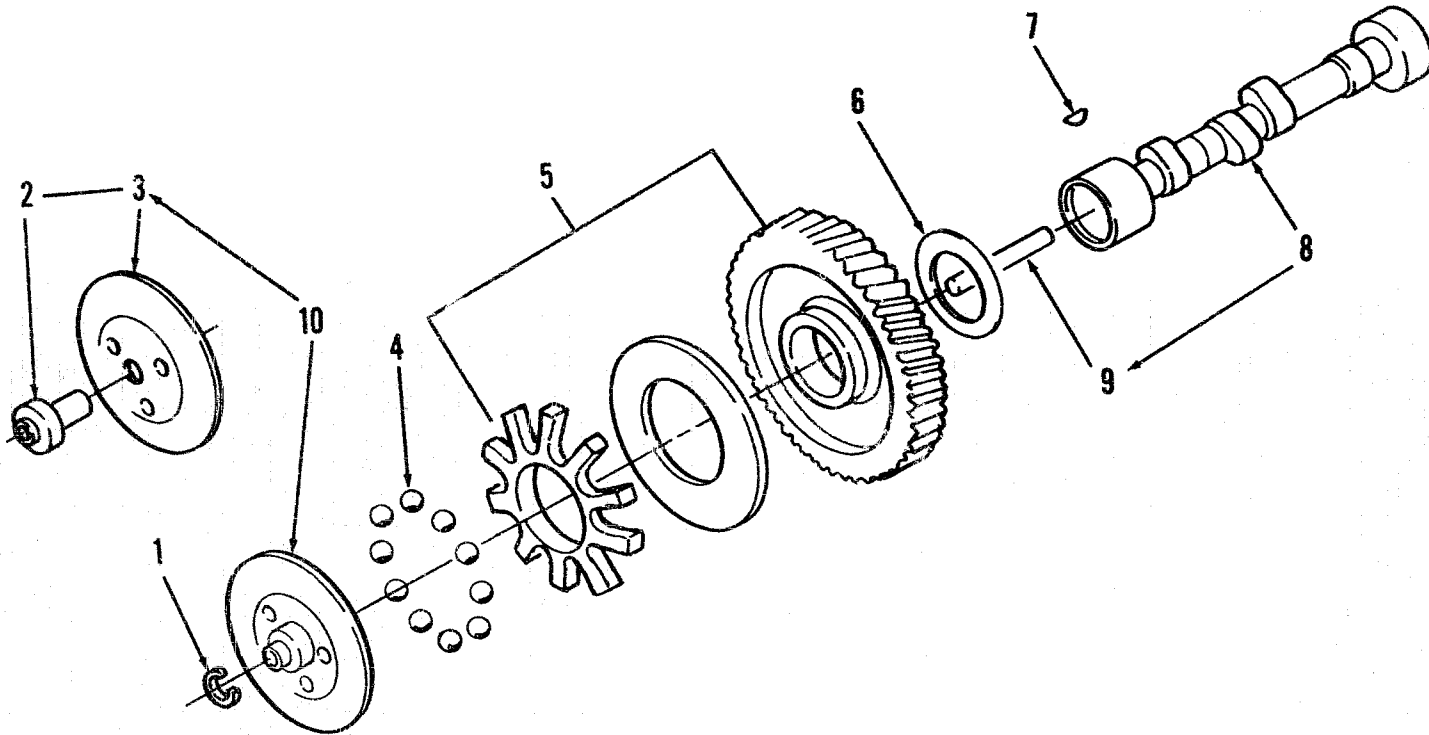
# Cylinder Block

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0170	2	Clamp, Hose	31	101-0115	1	*Gasket, Plate - Bearing
2	503-0761	1	Hose, Rubber - Preformed	32			Bearing Kit, Crankshaft
3	123-1784	1	Tube, Breather				(Includes Thrust Washer)
4	309-0601	1	Thermostat, Open at 202°F.		101-0450	2	* Standard
5	502-0942	1	Elbow, Hose - 90° (5/8)		101-0450-02	2	.002" Undersize
6	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")		101-0450-10	2	.010" Undersize
7	503-0977	2	Clamp, Hose		101-0450-20	2	.020" Undersize
8	503-1690-02	1	Hose, Coolant		101-0450-30	2	.030" Undersize
9	509-0041	1	Seal, Oil (In Gasket Kit 168-0149)	33	104-0575	2	*Washer, Thrust
10	502-0153	1	Plug, Pipe - Hex Head (Brass)	34	516-0072	2	*Pin, Drive - Headed (.190" Dia. x 11/32")
11	800-0509	18	Screw, Cap - Hex Head (Special)	35	516-0141	2	*Pin, Dowel (5/16" Dia. x 7/8")
12	850-0040	4	Washer, Lock (1/4")	36	110-1827	4	*Guide, Valve - Intake
13	110-3621	1	Head, Cylinder - Right Side	37	101-0367	2	**Bearing, Sleeve - Camshaft
14	110-3622	1	Head, Cylinder - Left Side	38	517-0048	1	*Plug, Expansion (1-5/8" Dia.)
15	110-3611	2	Gasket, Head	39	517-0011	8	*Plug, Expansion (1-1/4" Dia.)
16	800-0012	2	Screw, Cap - Hex Head (1/4-20 x 2-1/4")	40	120-0386	1	*Tube, Oil
17	526-0063	4	Washer, Flat - Copper (1/4)	41			Seat, Valve - Exhaust
18	110-0666	2	Cover, Valve		110-0872	2	* Standard
19	110-3606	2	Gasket, Cover - Valve		110-0872-02	2	.002" Oversize
20	110-0639	8	Lock, Stem - Valve		110-0872-05	2	.005" Oversize
21	110-0893	2	Washer, Retainer - Intake Valve Spring		110-0872-10	2	.010" Oversize
22	110-0904	2	Rotocap, Spring - Exhaust Valve		110-0872-25	2	.025" Oversize
23	110-0539	4	Spring, Valve	42	502-0028	1	Plug, Pipe - Hex Head (1/8)
24			Tappet, Valve	43	110-3136	2	*Gasket, Guide - Intake Valve
	115-0006	4	Standard	44	104-0776	1	Shim, Bearing - Thrust
	115-0006-02	4	.002" Oversize	45	168-0195	1	Kit, Gasket - Engine
	115-0006-05	4	.005" Oversize	46			Seat, Valve - Intake
25	110-0880	2	Valve, Exhaust (Chrome Cobalt Alloy)		110-1000	2	* Standard
26	110-1037	2	Valve, Intake (Steel)		110-1000-02	2	.002" Oversize
27	110-3627	1	Block, Cylinder (Includes Parts Marked *)		110-1000-05	2	.005" Oversize
28	800-0512	5	*Screw, Cap - Hex Head (Special)		110-1000-10	2	.010" Oversize
29	850-0045	5	*Washer, Lock - Spring (5/16")		110-1000-25	2	.025" Oversize
30	101-0390	1	*Plate, Bearing - Rear (Less Bearing)	47	110-0902	2	Guide, Valve - Exhaust
				48	110-3604	2	Seal, Oil - Valve Stem - Intake
				49	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")
				50	403-2918	1	Bracket, Lift
				51			Thermostat, Bypass
					309-0130	2	Keel Cooled (140°)
					309-0289	2	Heat Exchanger Units (180°)
				52	309-0186	2	Gasket, Housing - Thermostat
				53	309-0185	2	Housing, Thermostat

\* - Parts Included in 110-3627 Cylinder Block  
 \*\* - Units with Hi-Lift Cam, Use 101-0405 Bearing(1)



# Governor and Camshaft



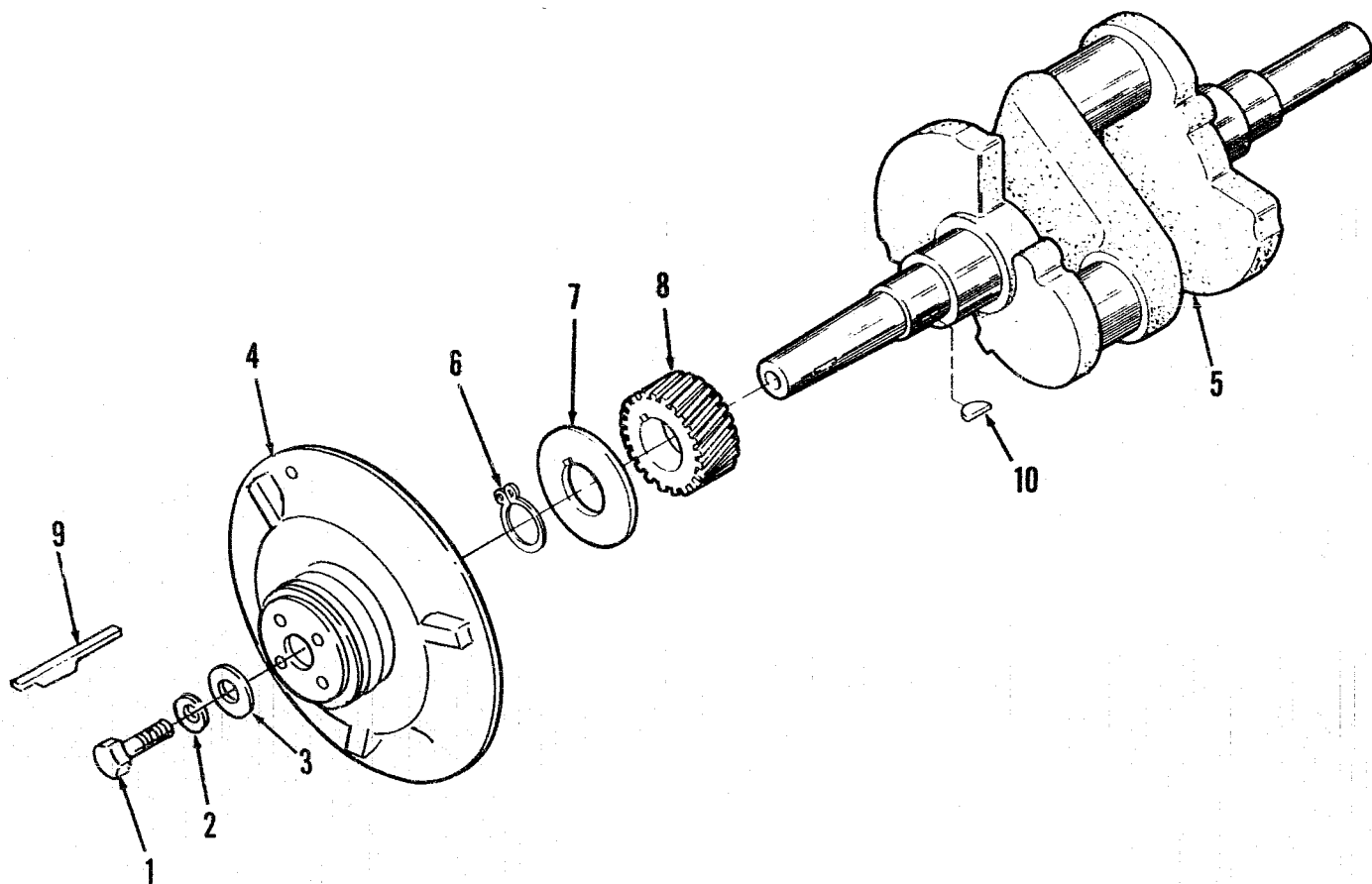
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REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0078	1	Ring, Retainer - Governor Pin
2	150-1519	1	*Hub, Governor
3	150-1520	1	*Cup, Governor
4	510-0015	10	Bearing, Ball
5	105-0332	1	Gear, Camshaft (Includes Spacer and Plate)
6	105-0541	1	Washer, Thrust

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	515-0001	1	Key, Woodruff (1/2" Dia. x 1/8" Thk)
8	105-0140	1	Camshaft (Includes Center Pin)
9	150-0075	1	Pin, Governor
10	150-1695	1	Kit, Cup - Governor (Includes Parts Marked *)

\* - Parts Included in 150-1695 Governor Cup Kit

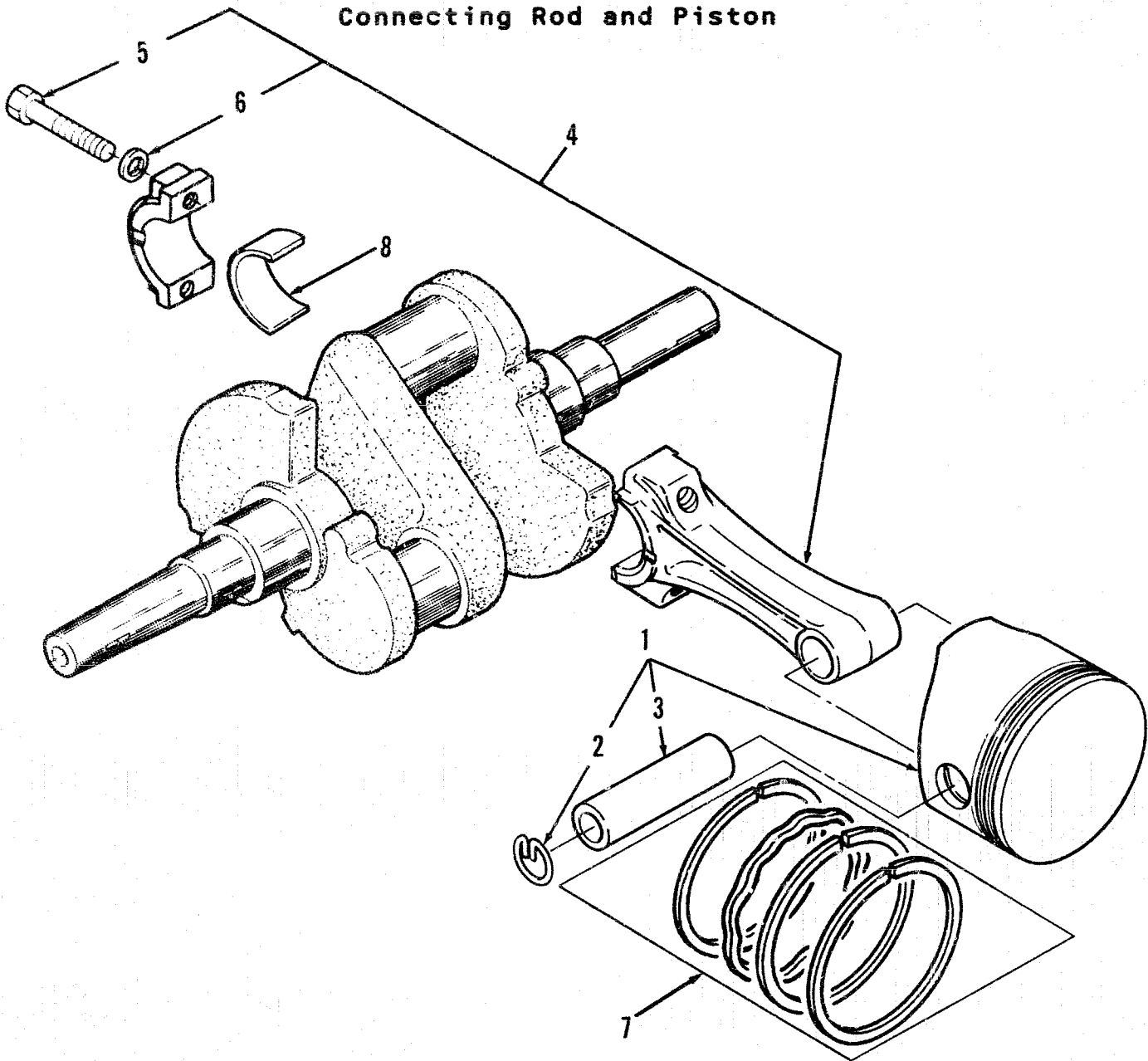
# Crankshaft and Flywheel



785A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	104-0170	1	Screw, Cap - Hex Head (Special)	6	518-0014	1	Ring, Retaining
2	850-0055	1	Washer, Lock - Spring (7/16")	7	104-0043	1	Washer, Retaining - Gear
3	526-0017	1	Washer, Flat (7/16)	8	104-0032	1	Gear, Crankshaft
4	104-1729	1	Flywheel (Mach)	9	515-0284	1	Key, Flywheel
5	104-1728	1	Crankshaft	10	515-0001	1	Key, Woodruff (1/2" Dia. x 1/8" Thk)

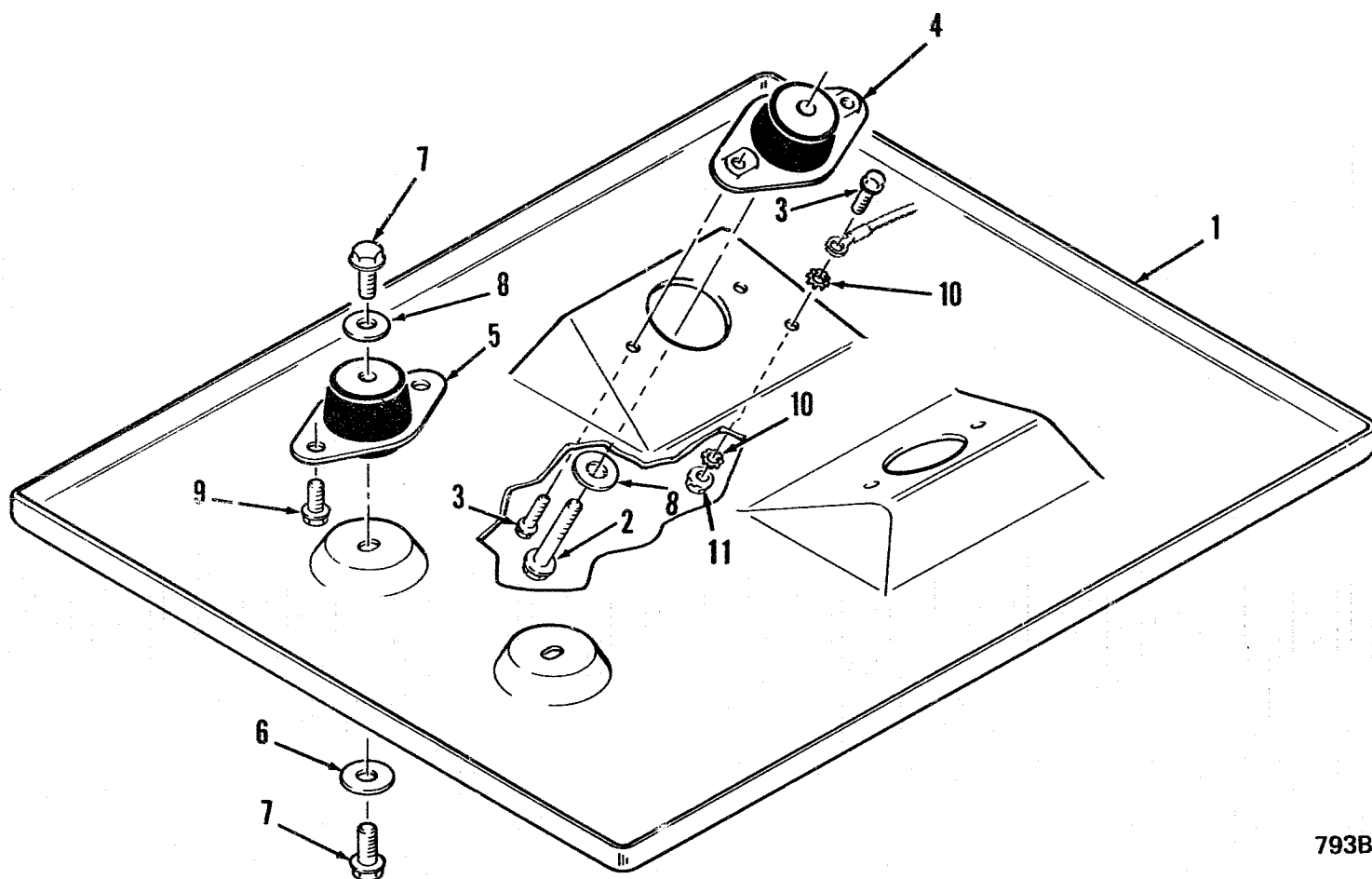
# Connecting Rod and Piston



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Piston and Pin (Includes Retaining Rings and Wrist Pins)	6	114-0059	4	Washer, Lock - Connecting Rod
	112-0179	2	Standard	7			Kit, Ring Set - Piston
	112-0179-05	2	.005" Oversize		113-0238	2	Standard
	112-0179-10	2	.010" Oversize		113-0238-05	2	.005" Oversize
	112-0179-20	2	.020" Oversize		113-0238-10	2	.010" Oversize
	112-0179-30	2	.030" Oversize		113-0238-20	2	.020" Oversize
	112-0179-40	2	.040" Oversize		113-0238-30	2	.030" Oversize
2	112-0003	4	Ring, Retaining		113-0238-40	2	.040" Oversize
3	112-0069	2	Pin, Wrist - Piston	8			Bearing, Connecting Rod
4	114-0203	2	* Rod, Connecting (Includes Screw and Lock)		114-0188	4	Standard
5	805-0010	4	Bolt, Place (5/16-24 x 1-1/4")		114-0188-02	4	.002" Undersize
					114-0188-10	4	.010" Undersize
					114-0188-20	4	.020" Undersize
					114-0188-30	4	.030" Undersize

\* Note: Can Use Economy Connecting Rod P/N 114-0098 Without Bearing P/N 114-0188.

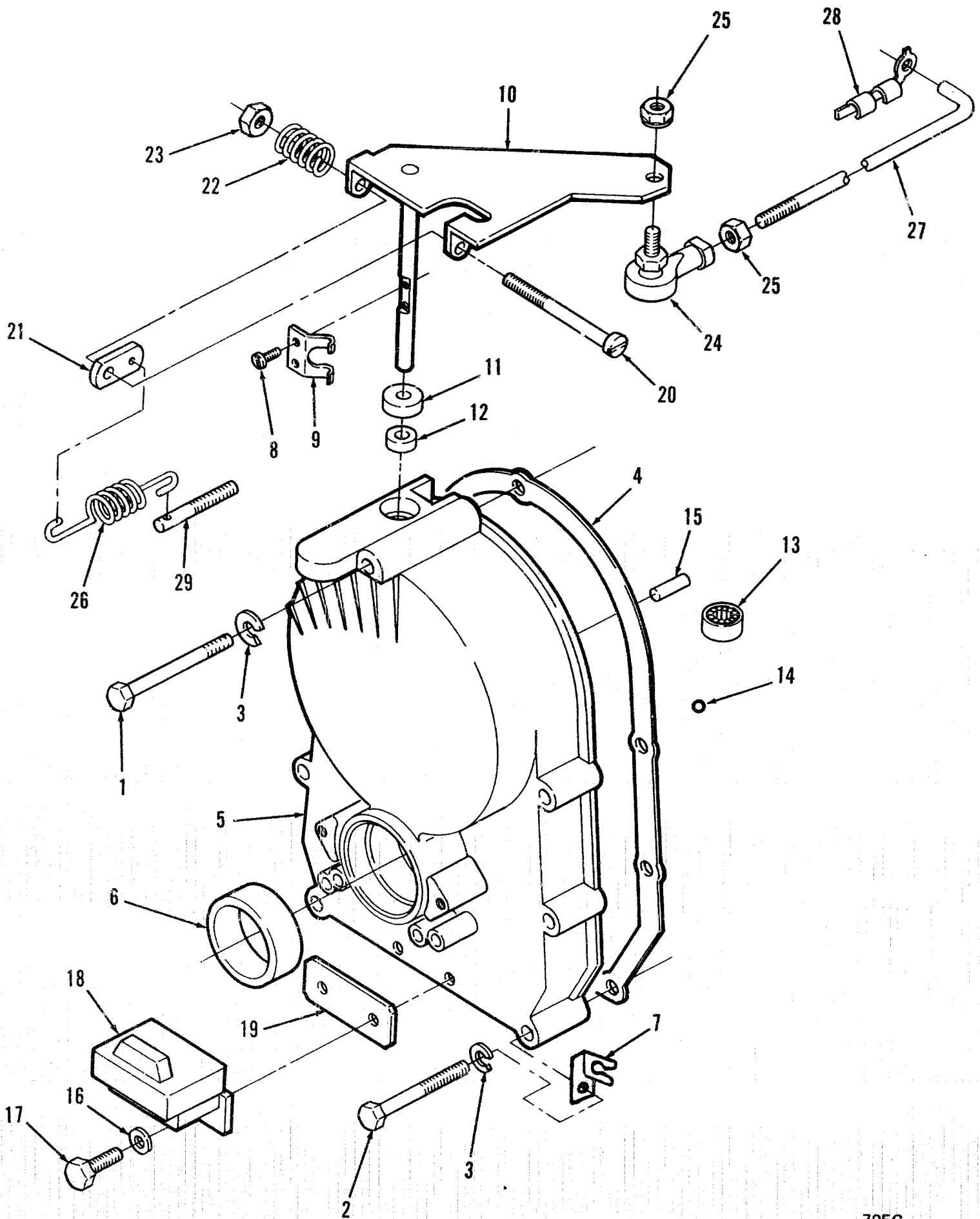
# Drip Pan



793B

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-2890	1	Pan, Drip	8	526-0324	4	Washer, Flat (5/16")
2	815-0598	2	Screw, Hex Head - Thread Forming (3/8-16 x 2-3/8")	9	815-0508	4	Screw, Hex Head - Thread Forming (5/16-18 x 3/4")
3	821-0018	6	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")	10	856-0006	4	Washer, Lock - External, Internal Tooth (1/4")
4	402-0550	2	Isolator, Vibration - Engine	11	870-0212	1	Nut, Hex - Flange Locking (1/4-20)
5	402-0549	2	Isolator, Vibration - Generator				
6	526-0240	2	Washer, Flat (3/8")				
7	821-0031	4	Screw, Self-Locking - Hex Washer Head (3/8-16 x 3/4")				

# Gearcase



795C

# Gearcase

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	800-0034	1	Screw, Cap - Hex Head (5/16-18 x 2-1/4")	16	854-0010	2	Washer, Lock - IT
2	114-0022	4	Screw, Cap - Hex Head (5/16-18 x 1-3/4")	17	815-0340	2	Screw, Form - Thread (HWH) (8-32 x
3	850-0045	5	Washer, Lock - Spring (5/16")	18	166-0785-01	1	Control, Ignition
4	103-0810	1	Gasket, Gearcase	19	166-0786	1	Insulator, Module - Ignitor
5	103-0772	1	Gearcase (Includes Parts Marked *)	20	820-1077	1	Screw, Machine - Pan head (10-32 x 2-1/2 LG)
6	509-0040	1	*Seal, Oil - Crankshaft	21	150-1998	1	Link, Spring - Governor
7	167-0188	1	Clip, Cable	22	141-0710	1	Spring, Needle - Idle
8	815-0046	2	Screw, Machine - Pan Head, Cross-Recessed (#8-32 x 3/8")	23	870-0328	1	Nut, Hex - Self-Locking (10-32)
9	150-1187	1	*Yoke, Governor	24			Joint, Ball
10	150-2324	1	*Arm and Shaft, Governor (Includes Clip)		150-0939	1	1-7/64" Long
11	509-0008	1	*Seal, Oil - Governor Shaft		150-1358	1	1-7/32" Long
12	510-0013	1	*Bearing, Needle - Upper	25	870-0131	2	Nut, w/ET - Hex Head
13	510-0013	1	*Bearing, Needle - Lower	26	150-2500	1	Spring, Retaining - Governor
14	510-0014	1	*Ball, Bearing	27	150-2475	1	Rod, Control - Governor
15	516-0130	1	*Pin, Roll - Yoke Stop	28	518-0006	1	Clip
				29	150-2325	1	Stud, Adjusting - Governor

\* - Parts Included in 103-0772 Gearcase.

## Oil System



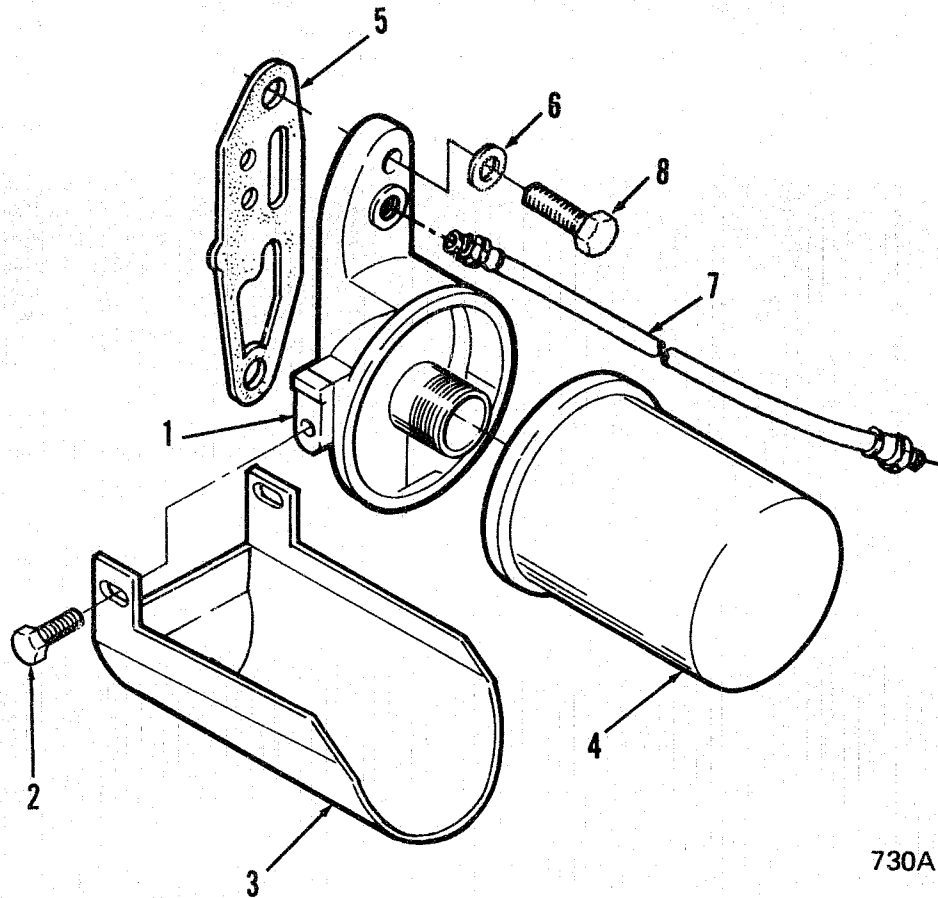
## Oil System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	123-1858	1	Indicator and Cap (Includes Parts Marked *)	14	526-0066	1	Washer, Flat - Cooper (3/8")
1	123-1647	1	*Cap, Fill - Oil	15	120-0140	1	Spring, Valve - Bypass
2	509-0142	1	*O Ring (1" ID x 1-1/4" OD x 1/8")	16	120-0398	1	Plunger, Valve - Bypass
3	815-0333	1	*Screw, Machine - Round Head Thread Cutting (#10-32 x 1/2")	17	120-0413	1	Cup, Intake - Oil Pump
4	123-1857	1	*Indicator, Level - Oil	18	309-0113	1	Switch, Low Oil - Pressure - 2 Terminal, Close at 9 PSI
5	123-1856	1	Tube, Fill - Oil	19	102-0455	4	Screw, Cap - Hex Head (Special)
6	509-0269	1	Seal, Tube - Oil Fill	20	850-0050	4	Washer, Lock - Spring (3/8")
7	102-1374	1	Base, Oil	21	504-0092	1	Valve, Drain
8	102-1369	1	Gasket, Base - Oil	22	132-0326	1	Pump, Coolant
9	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1")	23	503-1687-02	1	Elbow, Hose
10	850-0040	2	Washer, Lock - Spring (1/4")	24	503-1686	1	Hose, Coolant
11	120-0491	1	Pump, Oil	25	503-0977	4	Clamp, Hose
12	120-0161	1	Kit, Gasket - Pump, Oil	26	526-0018	2	Washer, Flat (1/4")
13	801-0048	1	Screw, Cap - Hex Head (3/8-24 x 3/4")	27	802-0032	2	Screw, Cap - Socket Head (1/4-20 x 1/2")

\* - Parts Included in 123-1853 Indicator and Cap.



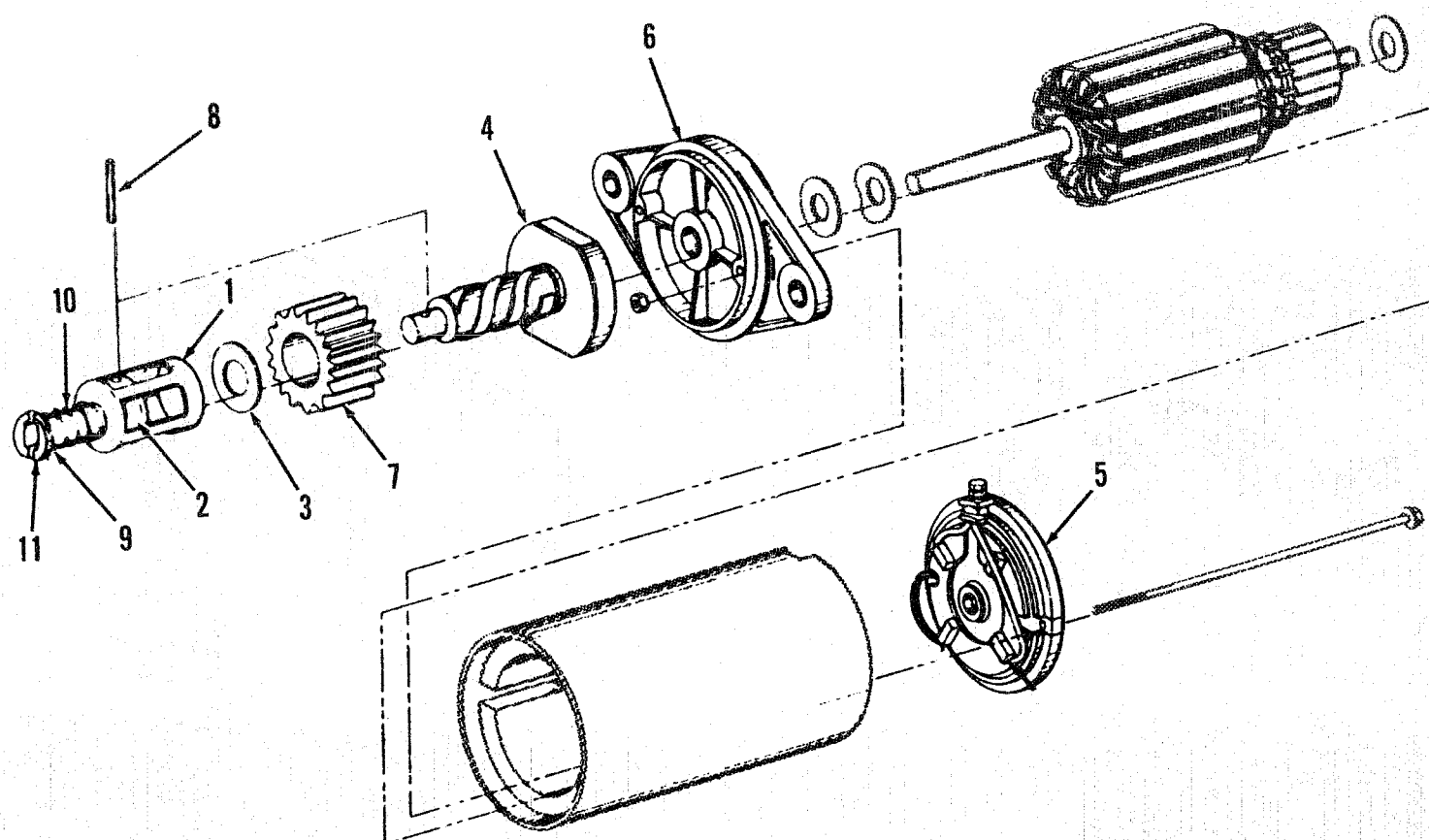
# Oil Filter Adapter and Drain



730A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	122-0320	1	Adapter, Filter - Oil	4	122-0323	1	Filter, Oil
2	815-0194	2	Screw, Hex Head - Thread Cutting with External Tooth (#10-32 x 3/8")	5	122-0774	1	Gasket, Adapter - Oil Filter
3	122-0360-53	1	Drain, Filter - Oil Painted	6	526-0065	2	Washer, Flat - Copper (5/16")
				7	501-0005	1	Line, Flex - Oil
				8	800-0028	2	Screw, Cap - Hex Head (5/16-18 x 1")

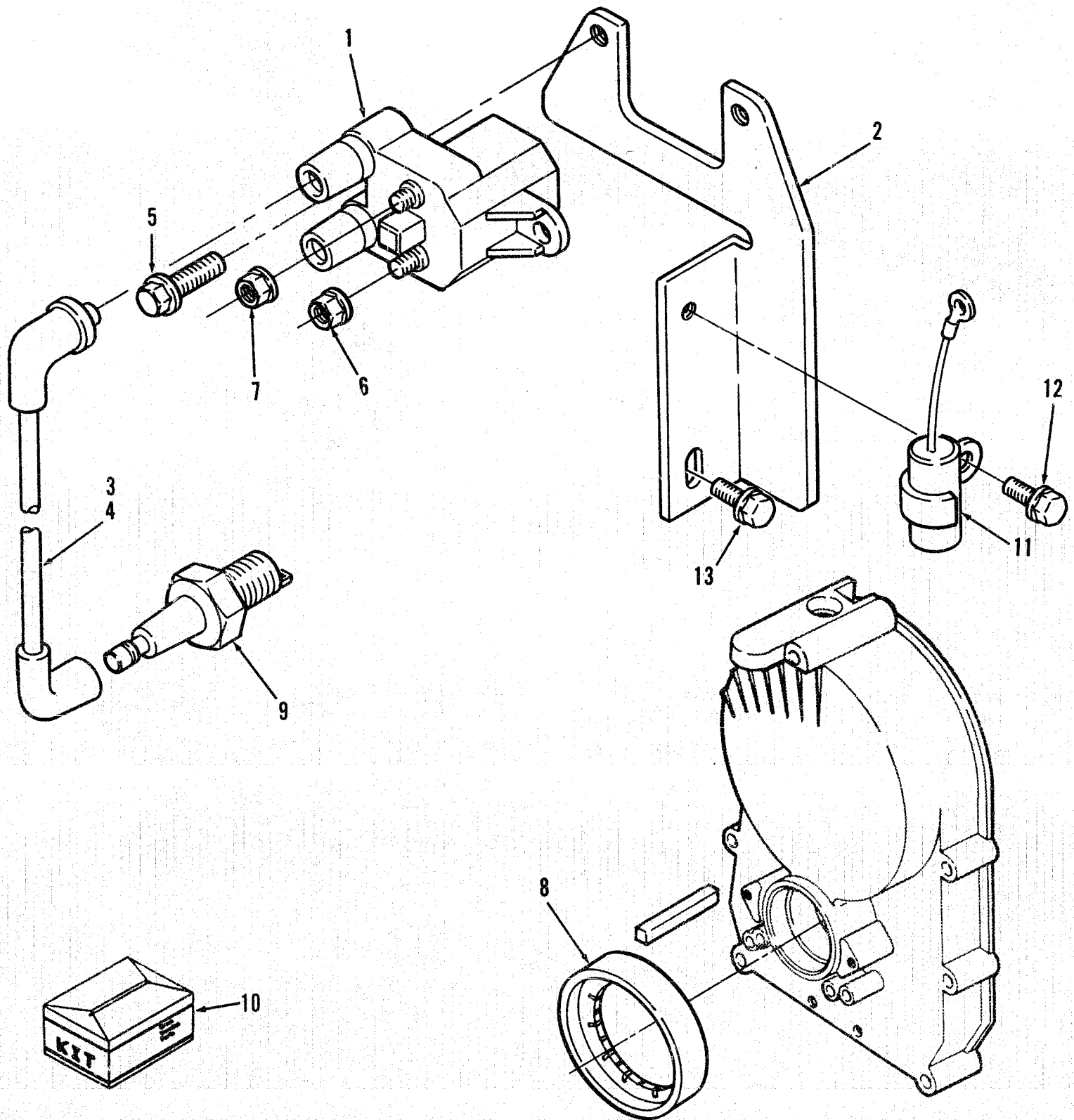
# Starter Components



309

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	191-1630	1	Motor, Starter (Complete)	6	191-1776	1	Cap, Drive End
1	191-1817	1	Cover, Spring	7	191-1819	1	Gear, Starter
2	191-1818	1	Retainer, Clutch	8	191-1786	1	Pin, Roll
3	191-1785	1	Washer, Drive	9	191-1822	1	Washer, Pinion
4	191-1784	1	Clutch and Spline	10	191-1820	1	Spring, Pinion
5	191-1781	1	Cap, End	11	191-1821	1	Retainer, Spring

# Ignition Coil

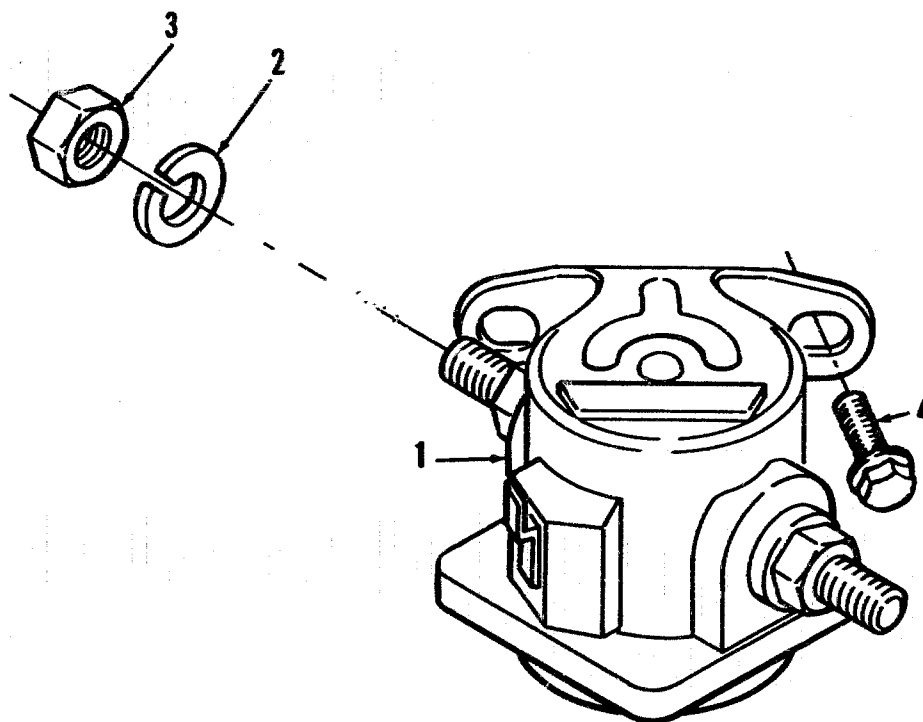


784A

## Ignition Coil

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	166-0761	1	Coil, Battery - Ignition	8	166-0767-01	1	Rotor, Ignition
2	166-0801	1	Bracket, Coil - Ignition	9	167-0263-01	2	Plug, Spark
3	167-1615-01	1	Lead, Tension - High	10	155-2556	1	Kit, Electronic Ignition Filter
4	167-1602	1	Lead, Tension - High	11	312-0051	1	Condenser
5	821-0015	2	Screw, Self Lock - Hex Washer Head (1/4-20 x 3/4")	12	821-0005	1	Screw, Locking - Hex Washer Head (#10-32 x 1/2")
6	166-0770	1	Nut, Flange - Hex (M4)	13	815-0261	1	Screw, Thread Forming - Hex Washer Head (1/4-20 x 1/2")
7	166-0771	1	Nut, Flange - Hex (M5)				

# Start Solenoid Relay

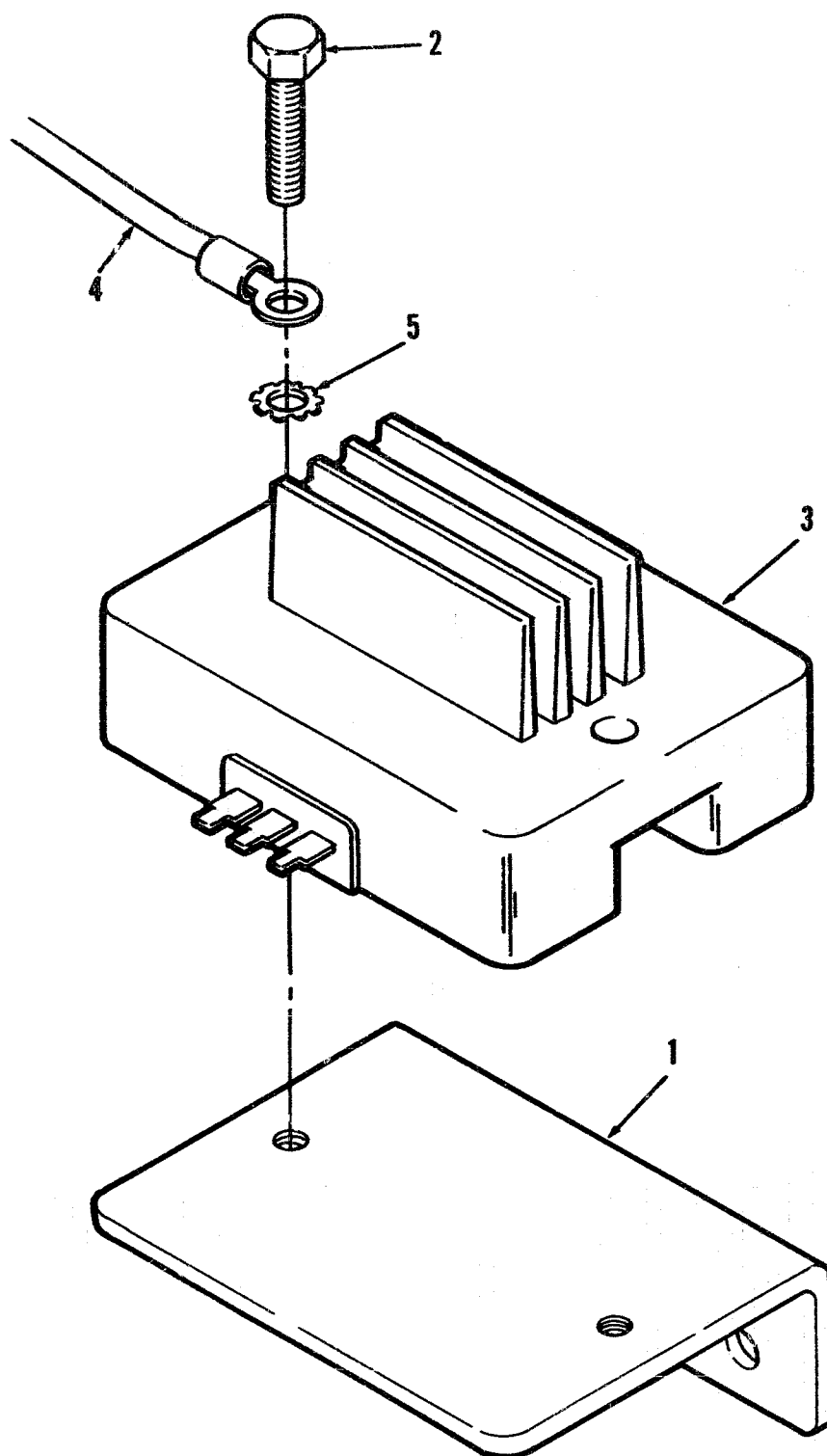


783A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	307-2344	1	Relay, Solenoid - Start
2	850-0045	1	Washer, Lock (5/16)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
3	868-0002	1	Nut, Hex (5/16-24)
4	815-0290	2	Screw, HWH (1/4-20 x .62")

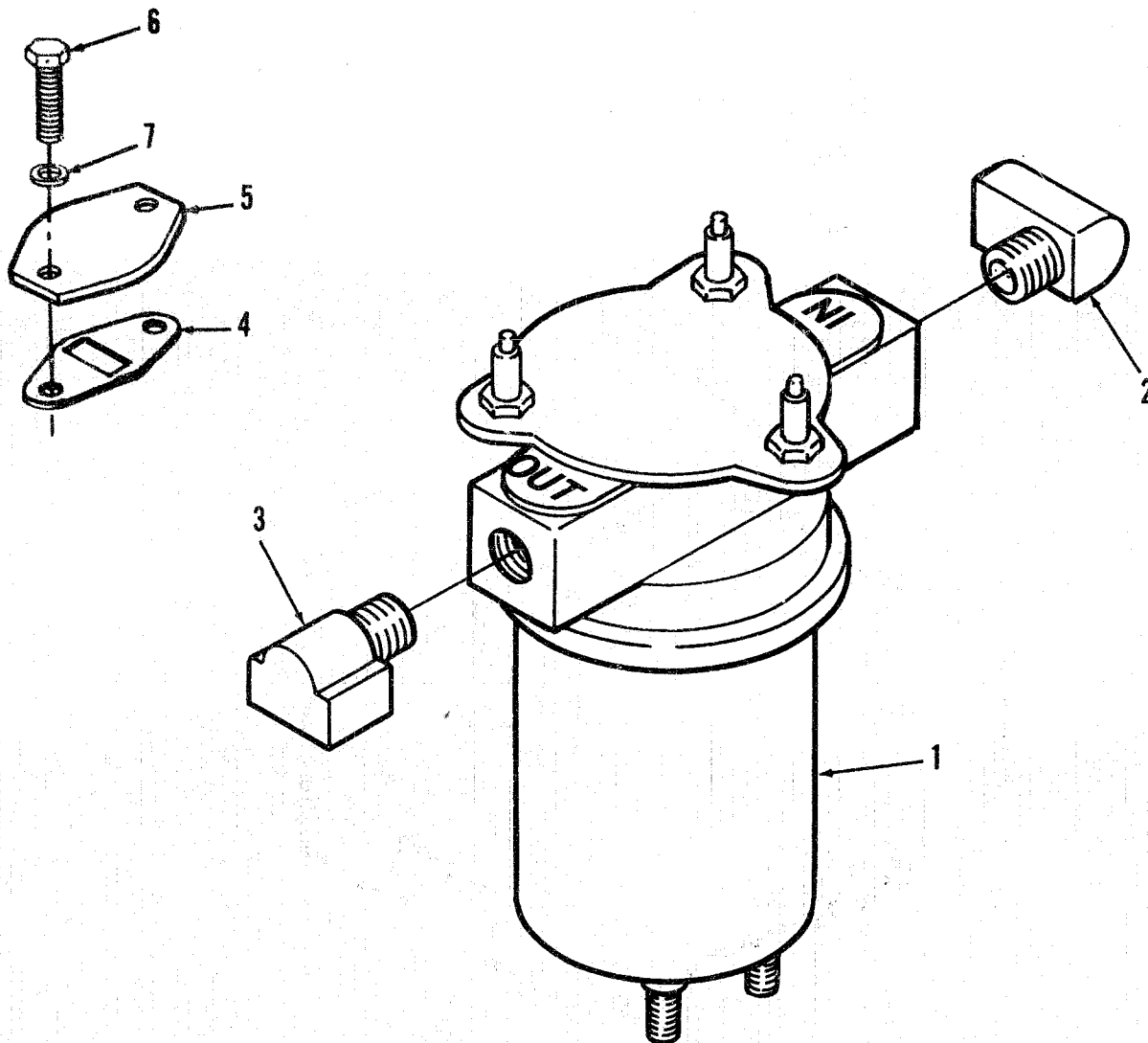
# Battery Charger



782A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	305-0832	1	Regulator, Complete	3	305-0784	1	Charger, Battery
1	319-0705	1	Bracket, Charger - Battery	4	226-4014-02	1	Lead
2	821-0012	2	Screw, Lock - Flange Head (1/4-20 x 1-1/8")	5	856-0006	1	Washer, Tooth - External, Internal

# Fuel Pump

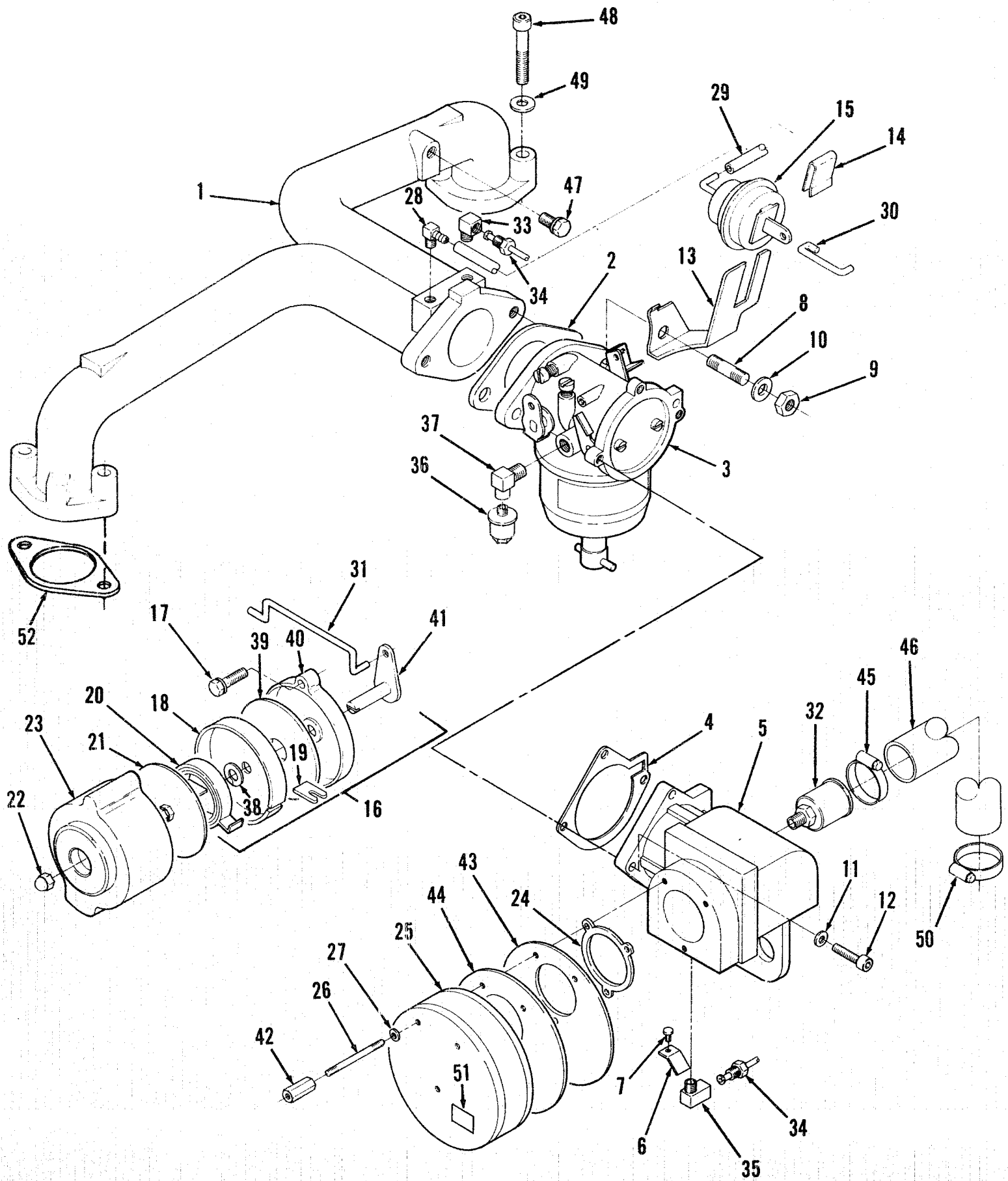


788A

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	149-2159	1	Pump, Fuel
2	502-0054	1	Elbow, Street - 90° Pipe
3	502-1118	1	Elbow, Flare - Inverted
4	149-0003	1	Gasket, Fuel Pump Hole
5	149-0136	1	Cover, Fuel Pump Hole

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8")
7	526-0063	2	Washer, Flat - Copper (1/4")

# Fuel System (Gasoline)



798D

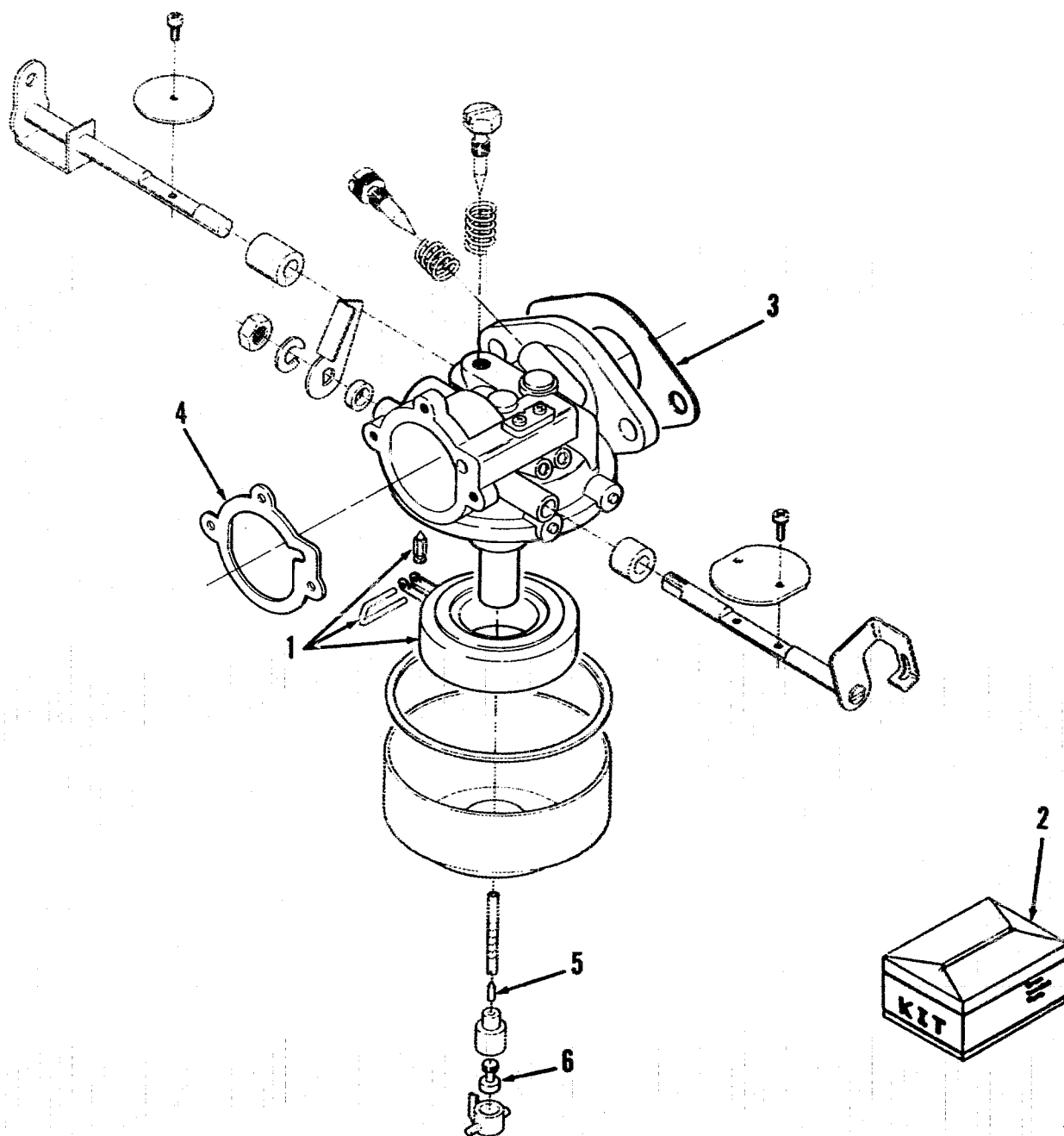


# Fuel System (Gasoline)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2777	1	Manifold, Intake (Mach)	26	520-0992	3	Stud, Spark Arrestor
2	141-0281	1	Gasket, Carburetor	27	856-0003	3	Washer, Lock - External/ Internal Tooth (#10)
3			Carburetor (See Separate Page For Components)	28	502-0871	1	Fitting, Vacuum
	146-0456	1	60 Hertz Units	29	503-1537-04	1	Hose, Vacuum (5/32 ID x 1/4 OD x 4.7" Long)
	146-0455	1	50 Hertz Units	30	153-0577	1	Linkage, Pulloff
4	140-2485	1	Gasket, Adapter	31	153-0627	1	Linkage, Choke
5	140-2424	1	Adapter, Carburetor (Machine)	32	145-0605	1	Arrestor, Tube - Breather
6	149-2256	1	Cover, Return - Fuel	33	502-0871	1	Fitting, Vacuum
7	815-0021	1	Screw, Drive	34	149-2268	1	Line, Return - Fuel
8	520-0654	2	Stud, Diaphragm Bracket (5/8 NC x 7/16 NF x 15/16" LG)	35	502-0019	1	Fitting, Elbow - Inverted Ma
9	868-0002	2	Nut, Jam (5/16-24 UNF)	36	149-2279	1	Filter, Fuel
10	526-0115	2	Washer, Flat (5/16")	37	502-1108	1	Elbow, Street (90°)
11	526-0071	3	Washer, Flat (#10)	38	518-0387	1	*Ring, Retaining
12	804-0018	3	Screw, Head - Socket (10-32 UNF x 5/8" LG)	39	153-0571	1	*Washer, Insulating
13	153-0629	1	Bracket, Diaphragm	40	153-0563	1	*Housing, Choke
14	518-0450	1	Clip, "U"	41	153-0567	1	*Shaft with Lever
15	153-0614	1	Diaphragm	42	140-2491	3	Spacer, Threaded
16	153-0556	1	Housing, Choke (Includes Parts Marked *)	43	140-2490	1	Plate, Resonator
17	815-0592	2	Screw, Hex Washer Head (8-32 x 1-3/8") (Thread Forming)	44	140-2492	1	Gasket, Resonator
18	153-0578	1	Tube, Housing - Choke	45	503-1137	1	Clamp, Hose
19	518-0466	1	Clip, Retaining	46	123-1868	1	Tube, Breather
20	153-0554	1	Element, Thermostat	47	821-0018	1	Screw, Locking - Hex Washer Head (1/4-20 x 5/8")
21	153-0613	1	Cover, Choke	48	802-0059	4	Screw, Cap - Hex Head (5/16-18 x 2")
22	870-0421	1	Nut, Cap (6-32 UNC)	49	526-0122	4	Washer, Flat (5/16)
23	153-0579	1	Cover, Housing - Choke	50	503-0131	1	Clamp, Hose
24	145-0601	1	Gasket, Arrestor - Flame	51	98-5397	1	Label, Warning
25	145-0602	1	Arrestor, Spark	52	154-2752	2	Gasket, Intake Manifold

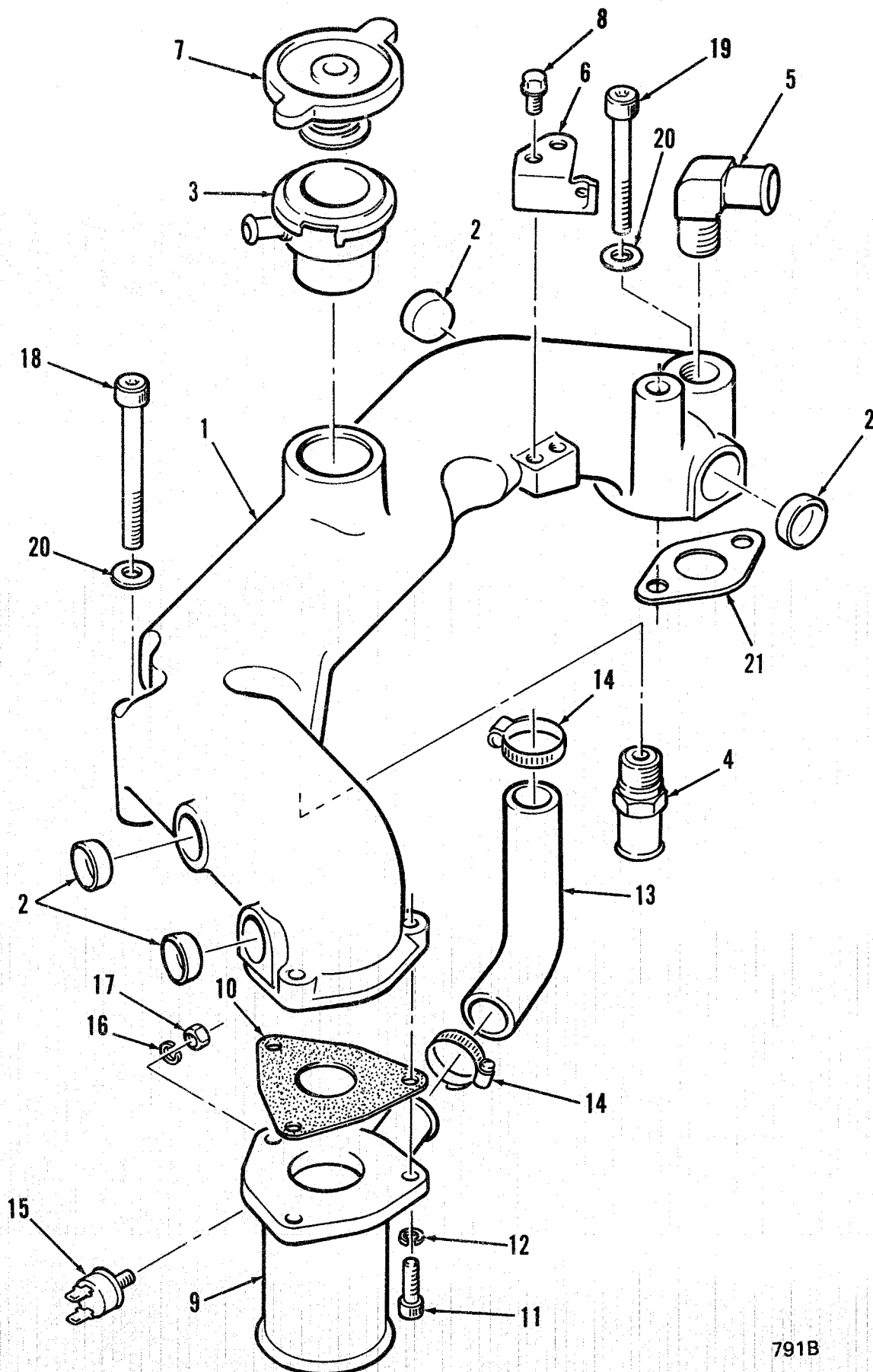
\* - Parts Included in 153-0556 Choke Housing.

# **Carburetor Components (Gasoline) Nikki**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Carburetor, Complete (Includes Mounting Gaskets)	3	141-0281	1	Gasket, Carburetor Mounting
	146-0455	1	50 Hertz Units	4	140-2308	1	Gasket, Air Horn
	146-0456	1	60 Hertz Units	5			Jet, idle
1	146-0453	1	Kit, Float (Includes Float, Pin and Valve)		146-0449	1	50 Hertz Units
					146-0451	1	60 Hertz Units
2	146-0457	1	Kit, Repair (Includes Gasket Package, Float Valve, Idle Adjust Needle and Spring, Mounting Gaskets, Adjust Limit Caps, Throttle Stop Screw and Spring)	6			Jet, Power
					146-0450	1	50 Hertz Units
					146-0452	1	60 Hertz Units

# Exhaust System

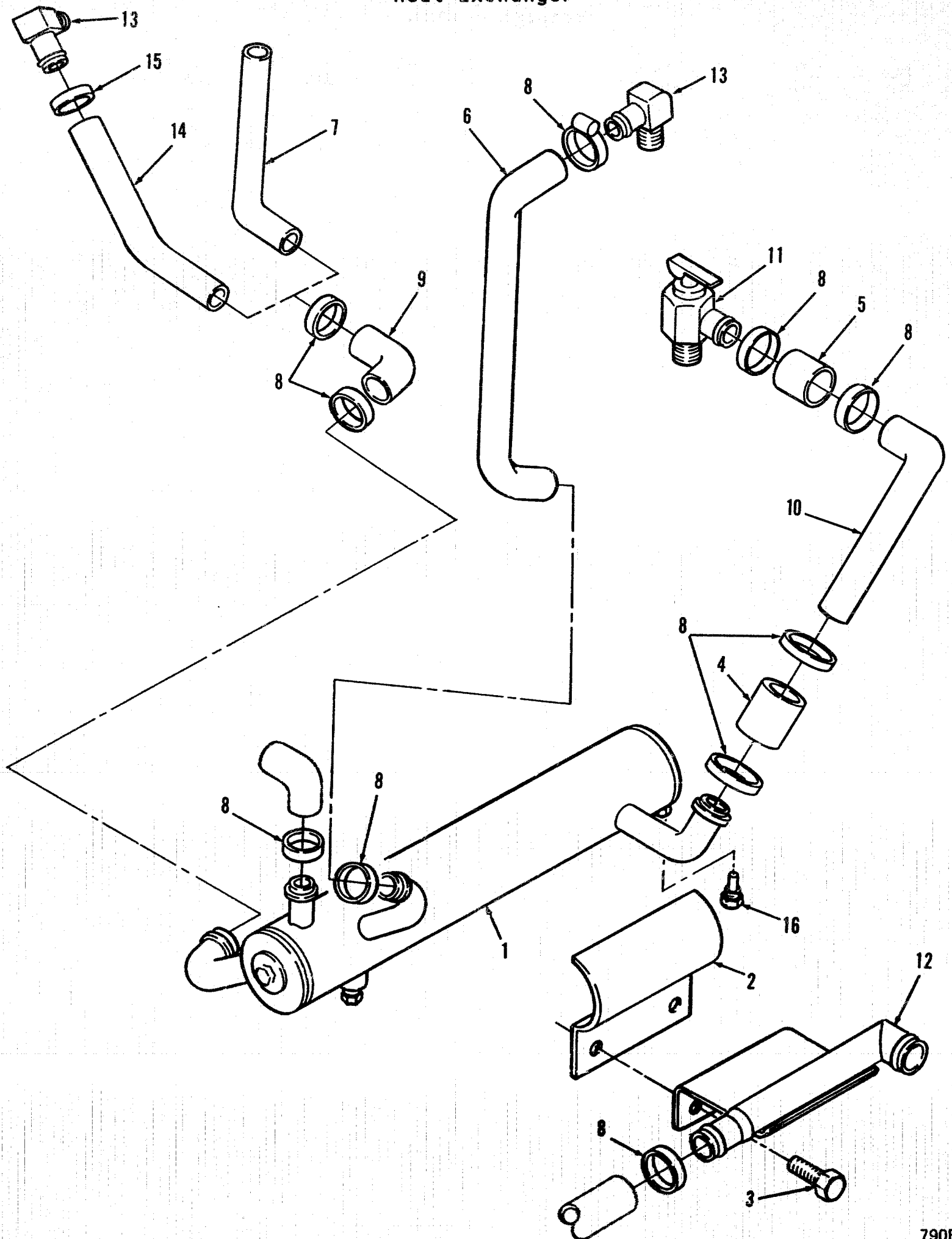


791B

## Exhaust System

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	154-2767	1	Manifold, Exhaust (Machined)	12	850-0040	3	Washer, Lock - Spring (1/4")
2	517-0276	4	Plug, Welsh	13	503-1687-03	1	Elbow, Hose (1/2)
3	130-2333	1	Neck, Filler	14	503-0977	2	Clamp, Hose
4	502-0943	1	Fitting	15	309-0597	1	Switch, Exhaust Temperature - Hi
5	502-0942	1	Elbow, Hose	16	850-0025	1	Washer, Lock - Spring (#8)
6	150-2321	1	Bracket, Governor	17	860-0008	1	Nut, Hex (8-32)
7	130-3721	1	Cap, Radiator - 7 PSI	18	802-0063	3	Screw, Cap - Socket Head (5/16-18 x 3")
8	821-0005	2	Screw, Self-Locking - Hex Washer Head (#10-32 x 1/2")	19	802-0061	1	Screw, Cap - Socket Head (5/16-18 x 2-1/2")
9	154-2768	1	Manifold, Exhaust (Machined)	20	526-0122	4	Washer, Flat (5/16)
10	155-2413	1	Gasket, Exhaust	21	154-2766	1	Gasket, Exhaust Manifold
11	802-0034	3	Screw, Cap - Socket Head (1/4-20 x 3/4")				

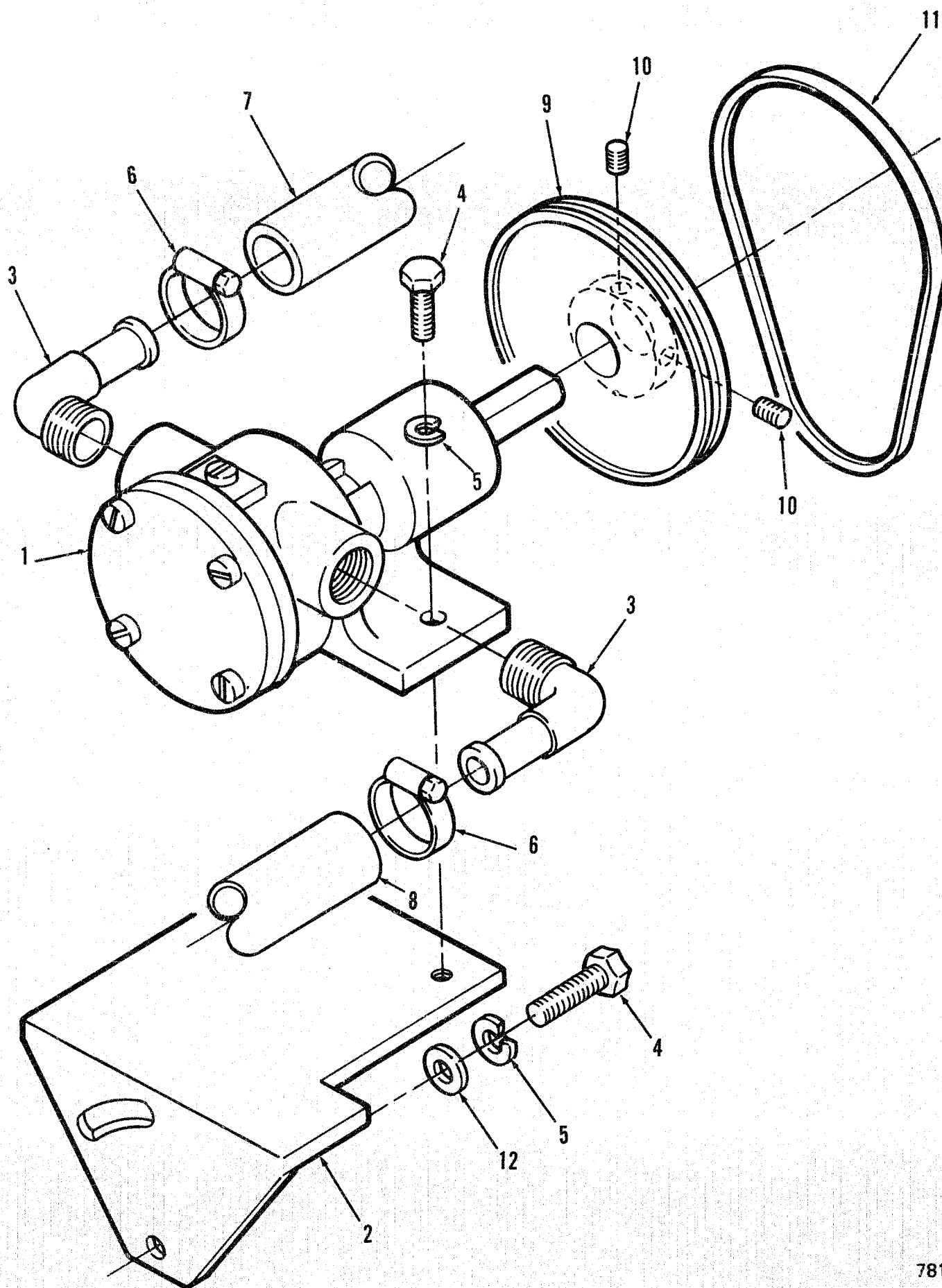
# Heat Exchanger



## Heat Exchanger

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-3506	1	Exchanger, Heat	9			Elbow, Hose
2	130-3507	1	Bracket, Exchanger - Heat		503-1687-02	2	1.78" Long
3	815-0508	2	Screw, Hex Head - Thread Forming (5/16-18 x 3/4")		503-1687-03	1	3.12" Long
4	503-1690-01	1	Hose, Coolant	10	130-3513	1	Tube, Coolant
5	503-1690-02	2	Hose, Coolant	11	504-0170	1	Valve, Bleeder
6	503-1688	1	Hose, Coolant	12	130-3603	1	Bracket, Inlet
7	130-3517	1	Tube, Exchange - Heat	13	502-0425	2	Elbow, Hose (1/2)
8	503-0977	10	Clamp, Hose	14	503-1778	1	Hose, Coolant
				15	503-0976	2	Clamp, Hose
				16	130-1341	1	Pencil, Zinc

# Water Pump



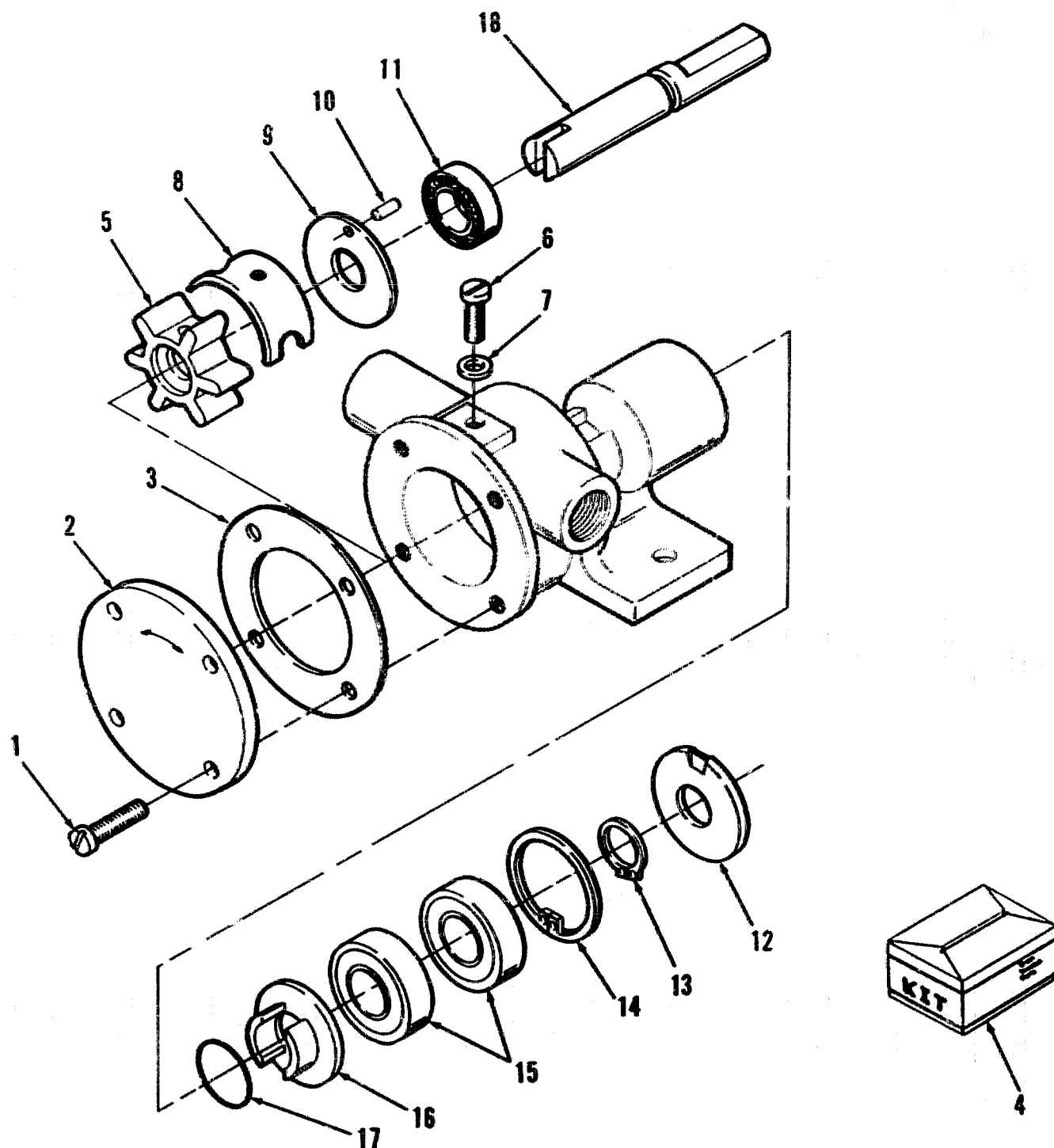
781A

## Water Pump

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	132-0284	1	Pump, Water (See Separate Page for Components)	7	503-1690-04	1	Hose - 8.51" Long - Heat Exchanger
2	130-3516	1	Bracket, Pump - Water	8	503-1690-06	1	Hose - 14.51" Long
3	502-0942	2	Elbow, Hose - 90°	9	512-0176	1	Pulley
4	800-0004	2	Screw, Cap - Hex Head (1/4-20 x 5/8")	10	815-0636	2	Screw, Set (#10-32 x 3/8")
5	850-0040	2	Washer, Lock - Spring (1/4")	11	511-0154-03	1	Belt, Pulley
6	503-0977	2	Clamp, Hose	12	526-0018	2	Washer, Flat (1/4")



# Water Pump Components

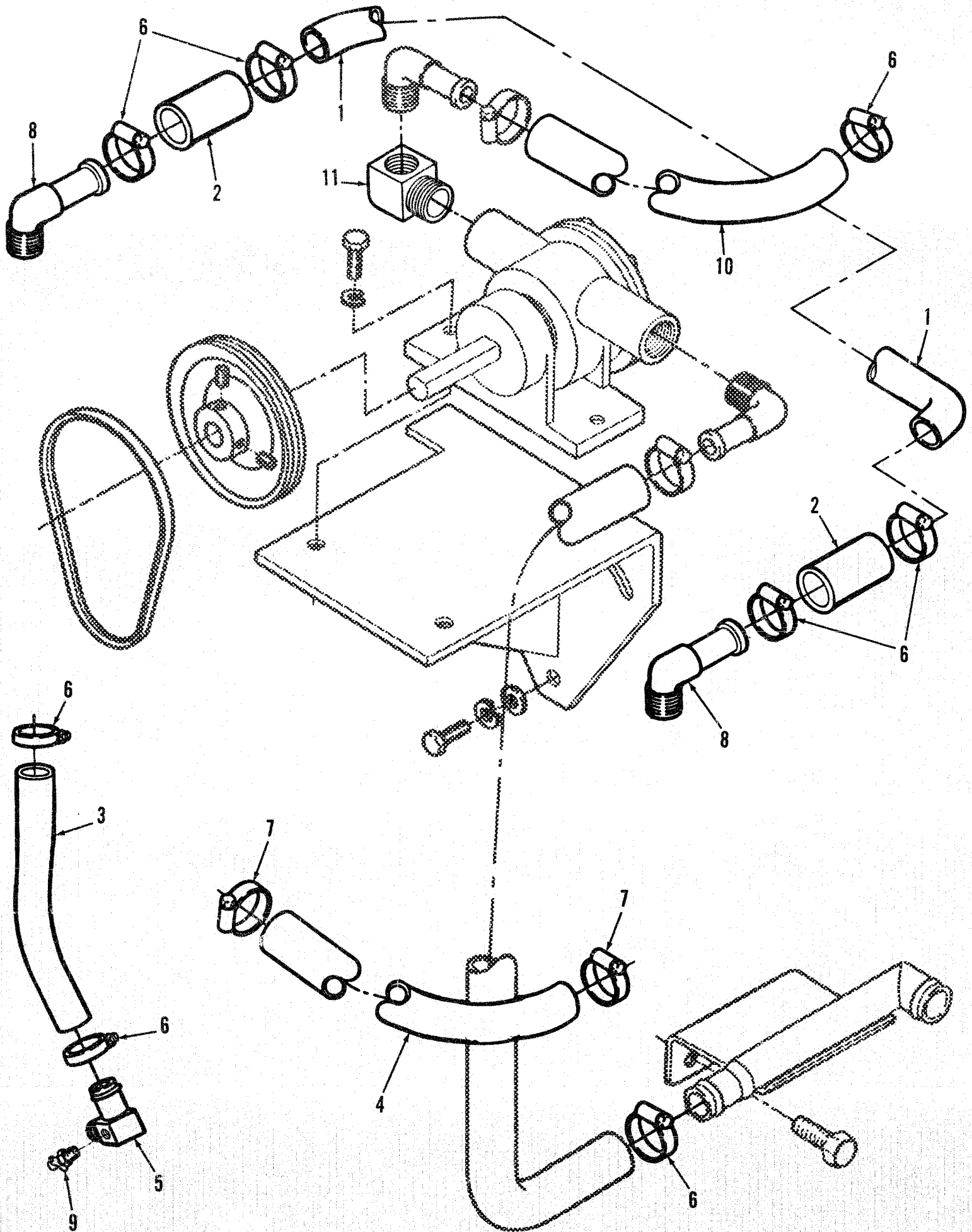


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	132-0284	1	Pump, Water
1	132-0312	4	*Screw, Machine - Bind Hd. Brass
2	132-0306	1	Cover
3	132-0309	1	*Gasket
4	132-0311	1	Kit, Repair (Includes Parts Marked *)
5	132-0310	1	*Impeller
6	132-0302	1	Screw, Machine - Bind Hd. Brass
7	132-0298	1	Washer, Flat - Copper (Special)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	132-0305	1	Cam
9	132-0297	1	Plate, Wear
10	132-0295	1	Pin, Straight - Solid
11	132-0308	1	*Seal
12	132-0303	1	Washer, Non-Metallic (Special)
13	132-0296	1	Ring, Retaining
14	132-0299	1	Ring, Retaining
15	132-0300	2	Bearing, Ball
16	132-0304	1	Washer/Spacer - Non-Metallic (Special)
17	132-0301	1	Ring, O
18	132-0307	1	Shaft

\* - Parts Included in 132-0311 Repair Kit.

# Keel Cooling

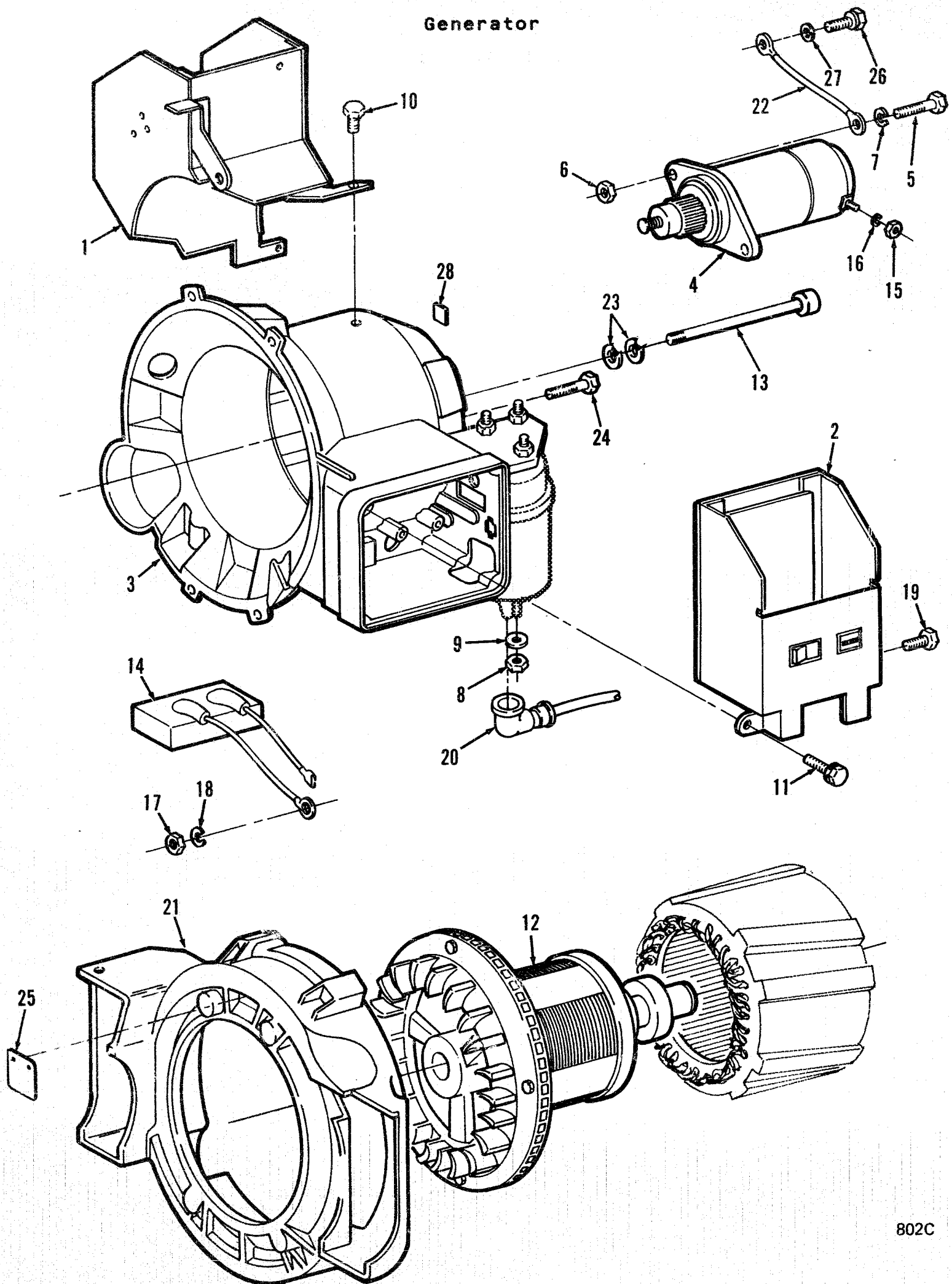


## Keel Cooling

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-3512	1	Tube, Coolant
2	503-1690-02	2	Hose, Coolant
3	503-1690-03	1	Hose, Coolant
4	503-1778	1	Hose, Coolant
5	502-1134	1	Elbow, Drain
6	503-0977	8	Clamp, Hose

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	503-0976	2	Clamp, Hose
8	502-0942	2	Elbow, Hose (5/8)
9	504-0005	1	Cock, Drain
10	503-1697	1	Hose, Molded
11	502-0075	1	Elbow, Street - 90°

# Generator

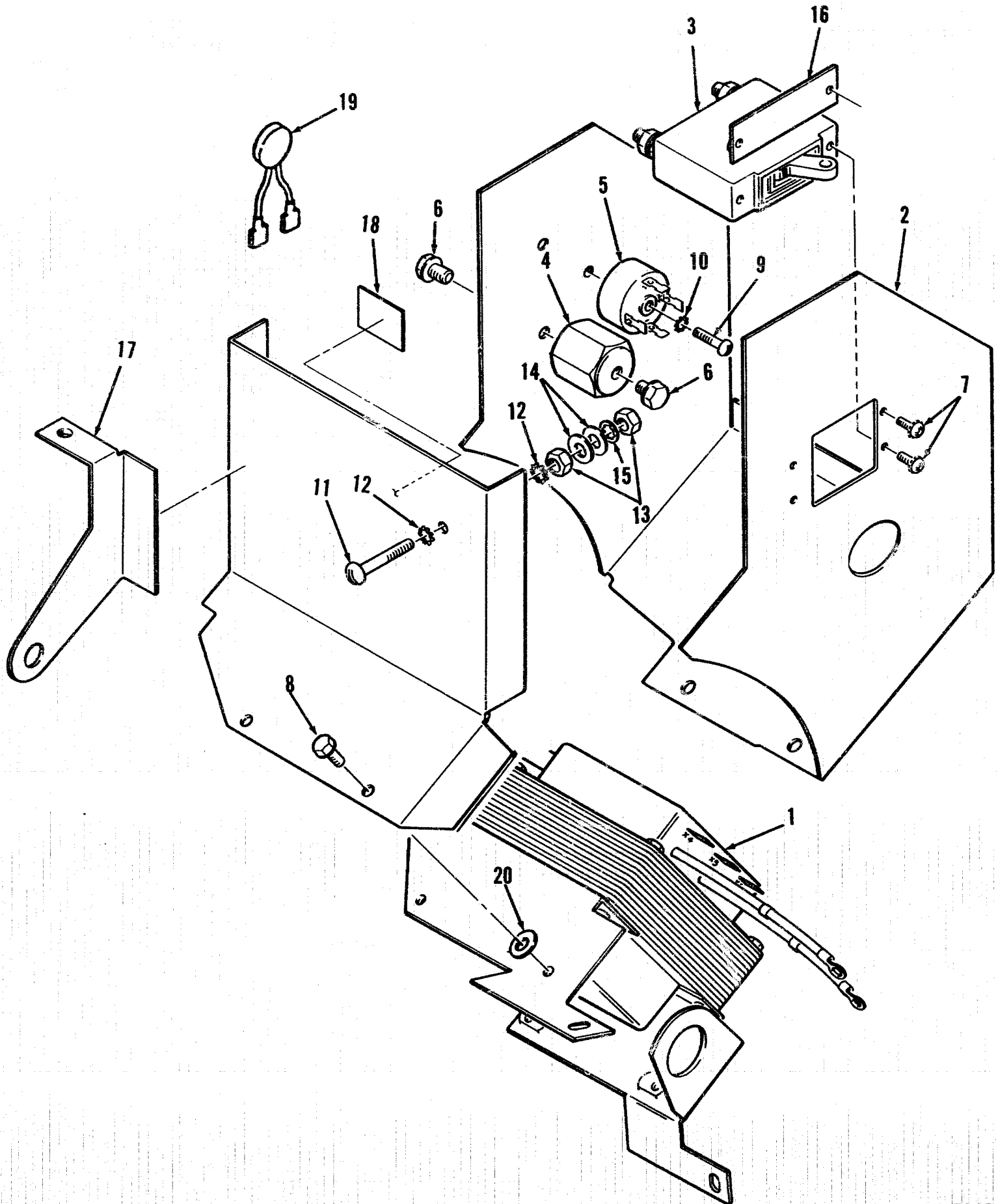


802C

# Generator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	NFS	1	Control, AC (See Separate Page for Components)	16			Washer, Lock - Spring (1/4)
2	NFS	1	Control, DC (See Separate Page for Components)		850-0040	1	All Except 5.0 KW, 1 Pole, 50 Hertz
3	NFS	1	Housing (See Separate Page for Components)		850-0040	2	5.0 KW - 220 Volt, 1 Pole, 50 Hertz
4	191-1630	1	Starter (See Separate Page for Components)	17	868-0002	1	Nut, Hex (5/16-24)
5	800-0052	2	Screw, Cap - Hex Head (3/8-16 x 1-1/2")	18	850-0045	1	Washer, Lock - Spring (5/16)
6	862-0003	2	Nut, Hex (3/8-16)	19	821-0005	3	Screw, Self-Locking - Hex Washer Head
7	850-0050	2	Washer, Lock - Spring (3/8)	20	332-2982	1	Insulator
8	870-0131	2	Nut, Hex - External Tooth (#10-32)	21	231-0320	1	Adapter, Generator (Mach)
9	526-0008	2	Washer, Flat (#10)	22	337-2435	2	Cable, Bond
10	815-0290	4	Screw, Hex Washer Head - Thread Forming (1/4-20 x 5/8")	23	856-0010	2	Washer, Lock - External, Internal Tooth
11	815-0340	2	Screw, Hex Washer Head - Thread Forming (10-32 x 3/8")	24	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
12	201-3249	1	Rotor	25	166-0822	1	Bracket, Ignition Control
13	802-1039	1	Screw, Socket (7/16-14 x 11.84)	26	815-0610	1	Screw, Thread Forming - Hex Washer Head (1/4-20 x 1")
14	320-1667	1	Breaker, Circuit	27	856-0006	1	Washer, Lock - External, Internal Tooth (1/4")
15			Nut, Hex (1/4-20)	28	98-2575	1	Label, Negative - Battery
	862-0001	1	All Except 5.0 KW, 1 Pole, 50 Hertz				
	862-0001	2	5.0 KW - 220 Volt, 1 Pole, 50 Hertz				

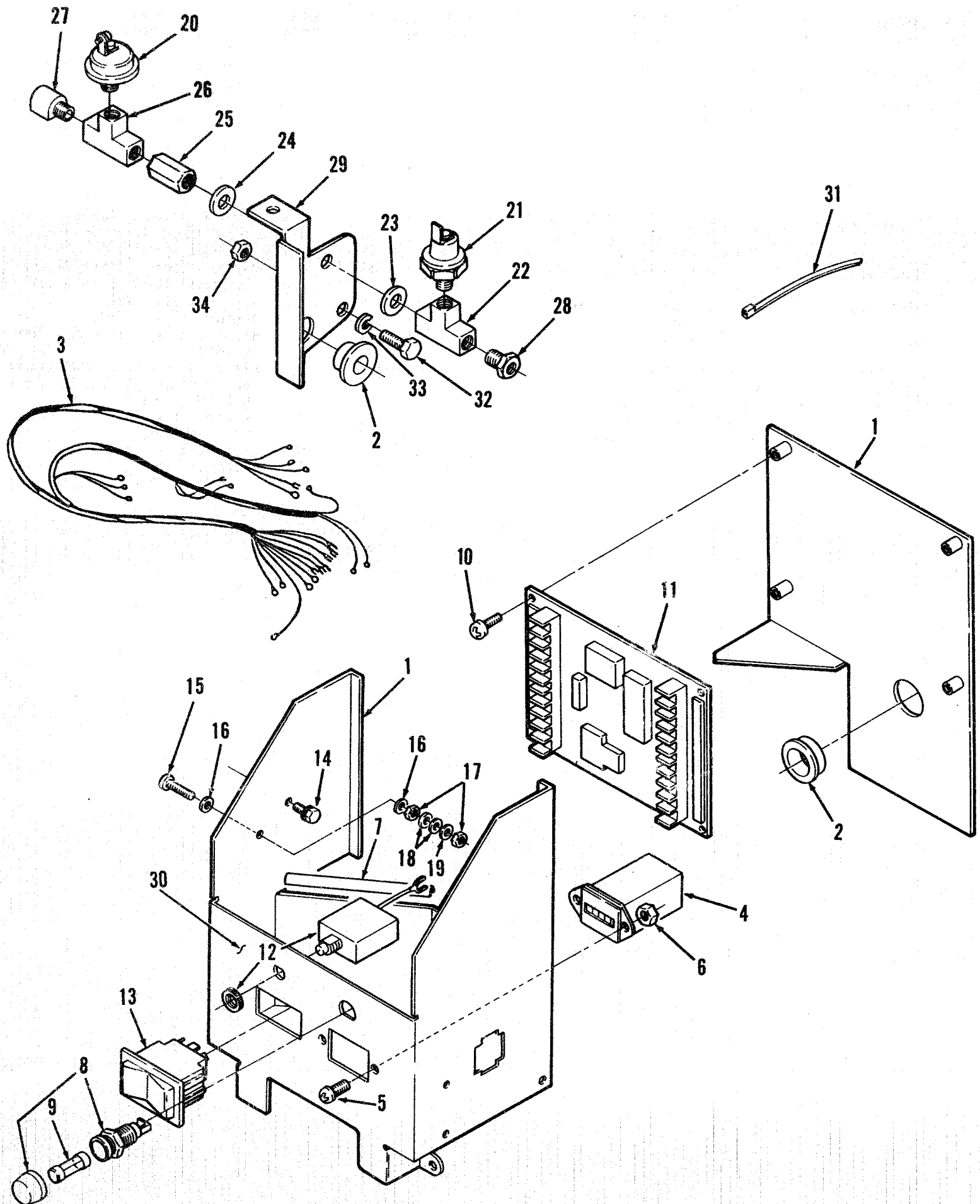
# Control (AC)



# Control (AC)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	315-0718-01	1	Transformer, Regulator 50 Hertz	8			Screw, Self-Locking - Hex Head (1/4-20 x 1/2")
2	319-0673	1	Box, Control - AC	821-0010	4		All Except 5.0 KW - 1 Pole 220 Volt, 50 Hertz
3			Breaker, Circuit 1 Pole	821-0010	5		5.0 KW, 1 Pole, 220 Volt, 50 Hertz
	320-1672-01	1	Used on 4.5 KW Units 60 Hertz	9	813-0103	1	Screw, Machine - Round Head (#10-32 x 3/4")
	320-1672-02	1	Used on 6.5 KW Units 60 Hertz	10	856-0003	1	Washer, Lock - External Internal Tooth (#10)
	320-1672-03	1	Used on 5.0 KW Units 50 Hertz	11	810-0155	1	Screw, Machine - Round Head (1/4-20 x 1-1/4")
			2 Pole	12	856-0006	2	Washer, Lock - External, Internal Tooth (1/4")
	320-1666-01	1	Used on 4.5 KW Units 60 Hertz	13	871-0015	2	Nut, Hex (1/4-20)
	320-1666-02	1	Used on 6.5 KW Units 60 Hertz	14	526-0052	2	Washer, Flat (1/4")
	320-1666-03	1	Used on 5.0 KW Units 50 Hertz	15	854-0014	1	Washer, Lock - Internal too (1/4")
4	332-2370	2	Standoff, Insulator	16	319-0834	1	Plate, Circuit Breaker (Use on 1-Pole, 4.5 KW, 5.0 KW 6.5 KW Units)
5	305-0696	1	Bridge, Rectifier	17	319-0850	1	Bracket, Control - AC
6	821-0008	4	Screw, Self-Locking - Hex Head (1/4-20 x 5/16")	18	98-6197	1	Label, Neutral
7	815-0549	4	Screw, Pan Head (#6-32 x 1/4")	19	305-0703	1	Suppressor, Voltage
				20	526-0016	1	Washer, Flat (1/4") - 5.0 KW, 1 Pole, 220 Volt, 50 Hertz

# Control (DC)

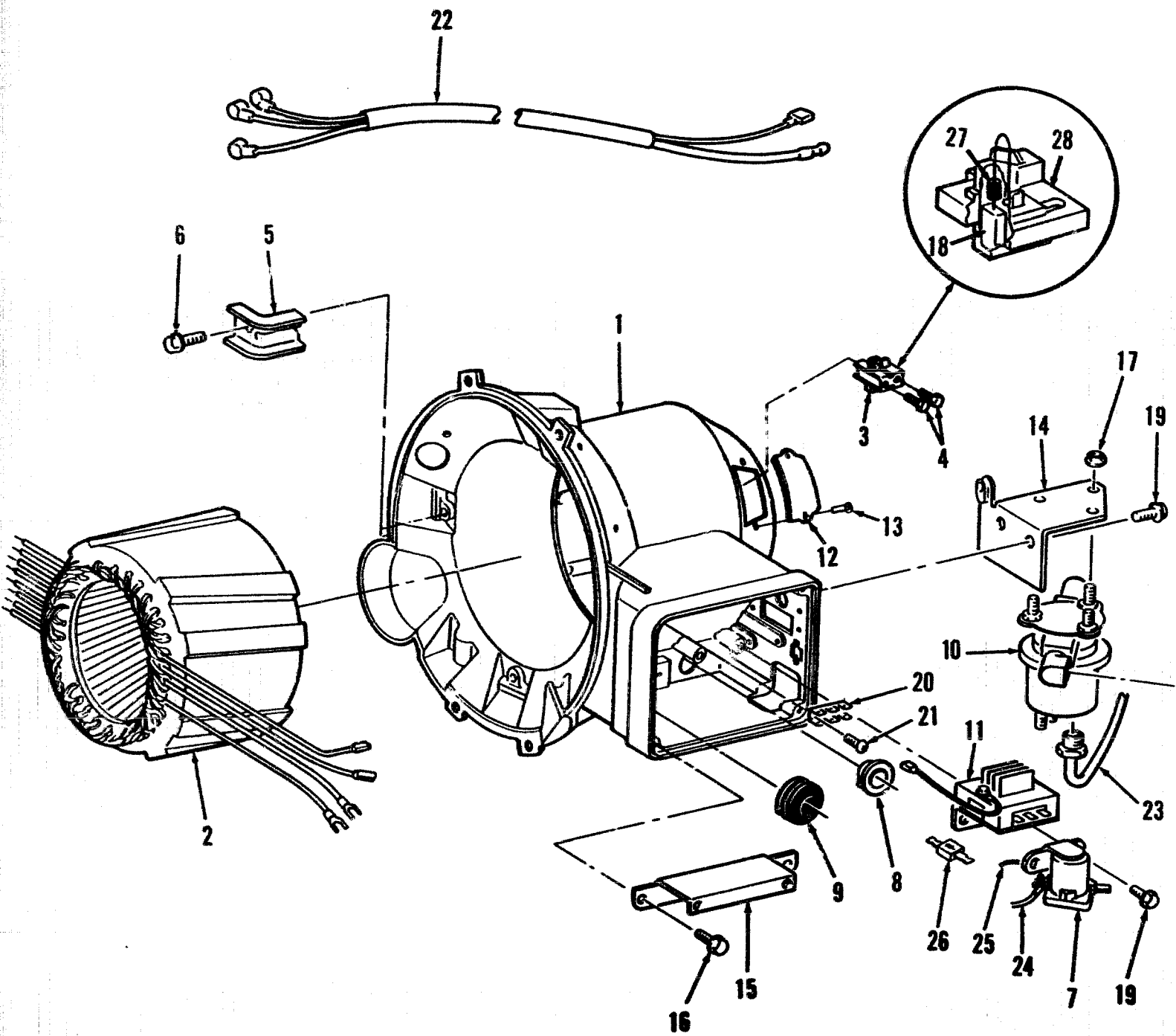




# Control (DC)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	319-0727	1	Box, Control (Includes Back)	18	526-0052	2	Washer, Flat (1/4)
2	508-0251	2	Bushing	19	854-0014	1	Washer, Tooth - Internal (1/4)
3	338-2464	1	Harness, Control (DC)	20	309-0104	1	Switch, Low Oil Pressure - 1 Terminal, Close at 5 PSI
4	302-0885	1	Meter, Totalizing - Time	21	309-0594	1	Switch, Low Oil Pressure - 1 Terminal, Open at 6.5 to 9.5 PSI
5	815-0385	2	Screw, Machine - Round Head (#6-32 x 1/2")	22	502-0079	1	Tee, Low Oil Pressure Switch
6	870-1183	2	Nut, Hex - External Tooth (#6-32)	23	854-0023	1	Washer, Lock - Internal Tooth (7/16)
7	508-1052	1	Edging	24	526-0026	1	Washer, Flat (3/8)
8	321-0305	1	Holder, Fuse	25	502-0175	1	Adapter, Pipe (1/8)
9	321-0146	1	Fuse, 10 Amp	26	502-0058	1	Tee, Pipe - Special
10	815-0544	4	Screw, Machine - Round Head (#6-32 x 1/2")	27	502-0002	1	Elbow, Male - Inverted
11	300-2604	1	PCB, Monitor - Engine	28	502-0028	1	Plug, Pipe - Hex Head (1/8)
12	320-1141	1	Breaker and Terminal	29	319-0725	1	Bracket, Control
13	308-0852	1	Switch, Rocker	30	98-6109	1	Silkscreen
14	821-0004	1	Screw, Self-Locking - Hex Washer Head (10-32 x 5/16")	31	332-1445	3	Tie, Cable
15	810-0155	1	Screw, Machine - Round Head (1/4-20 x 1-1/4")	32	800-0052	1	Screw, Cap - Hex Head (3/8-16 x 1-1/2")
16	856-0006	2	Washer, Tooth - External, Internal (1/4)	33	850-0050	1	Washer, Lock (3/8)
17	871-0016	2	Nut, Hex (1/4-20)	34	862-0003	1	Nut, Hex (3/8-16)

# Stator Housing



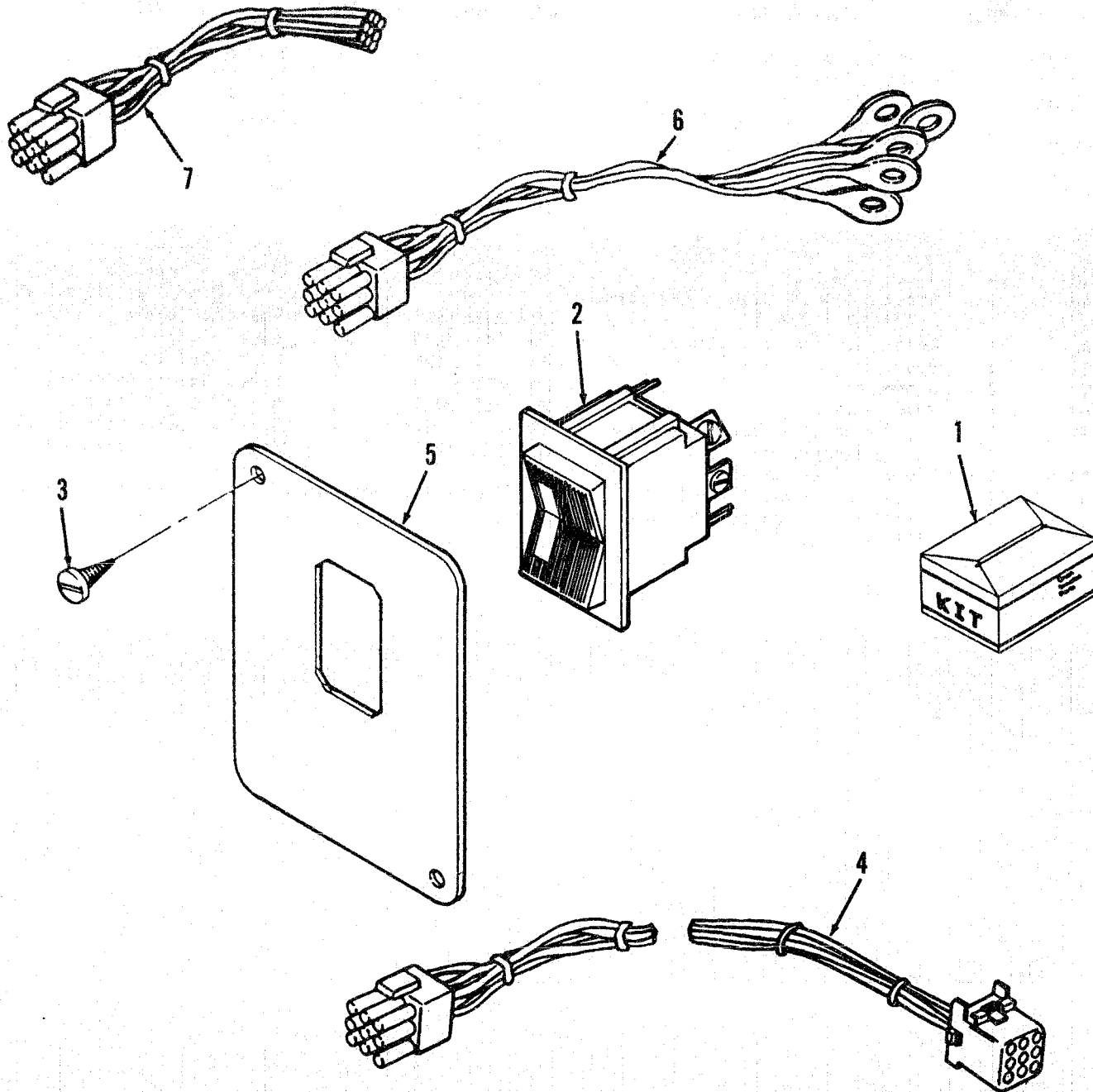
792B

## Stator Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	220-3977-01	1	Housing, Machine - Stator	14	149-2257	1	Bracket, Pump - Fuel
2	220-4257-01	1	Stator, Wound	15	319-0666	1	Bracket, Isolation - DC
			4.5 MCE - Voltage Code A, B	16	815-0340	2	Screw, Thread Forming - Hex Washer Head (10-32 x 3/8")
			6.5 MCE - Voltage Code A, B	17	870-0212	3	Nut, Flange - Self-Locking (1/4-20)
	220-4257-02	1	5.0 MCE - Voltage Code M	18	214-0103	2	*Brush, Generator
			50 Hertz	19	815-0290	4	Screw, Thread Forming - Hex Washer Head (1/4-20 x 5/8")
3	212-1285	1	Block, Generator Brush (Includes Parts Marked *)	20	332-1815	1	Tab, Terminal
4	815-0359	2	Screw, Thread Forming - Hex Head (10-32 x 7/8")	21	815-0387	2	Screw, Thread Cutting - Phillip Head (#6-32 x 1/4")
5	232-3156	4	Clamp, Stator	22	338-2507	1	Harness, Block - Brush
6	815-0646	4	Screw, Countersunk - Thd Form (1/4-20 x 3/4")	23	149-2270	1	Line, Fuel
7	307-2344	1	Relay, Solenoid - Start	24	226-2426	1	Lead, Starter
8	508-0251	1	Bushing	25	226-4013	1	Lead, Start Solenoid
9	508-0309	2	Grommet	26	357-0067	1	Rectifier, Silicon
10	149-2159	1	Pump, Fuel	27	212-1276-03	2	*Spring, Generator Brush
11	305-0832	1	Regulator (See Separate Page for Components)	28	212-1286	1	*Block, With Terminal
12	212-1274	1	Cover, Block Brush				
13	815-0181	2	Screw, Hex Head Thread Cutting - External Tooth (10-32 x 1/2")				

\* - Parts Included in 212-1285 Generator Brush Block

## Remote Control Panel (Basic)

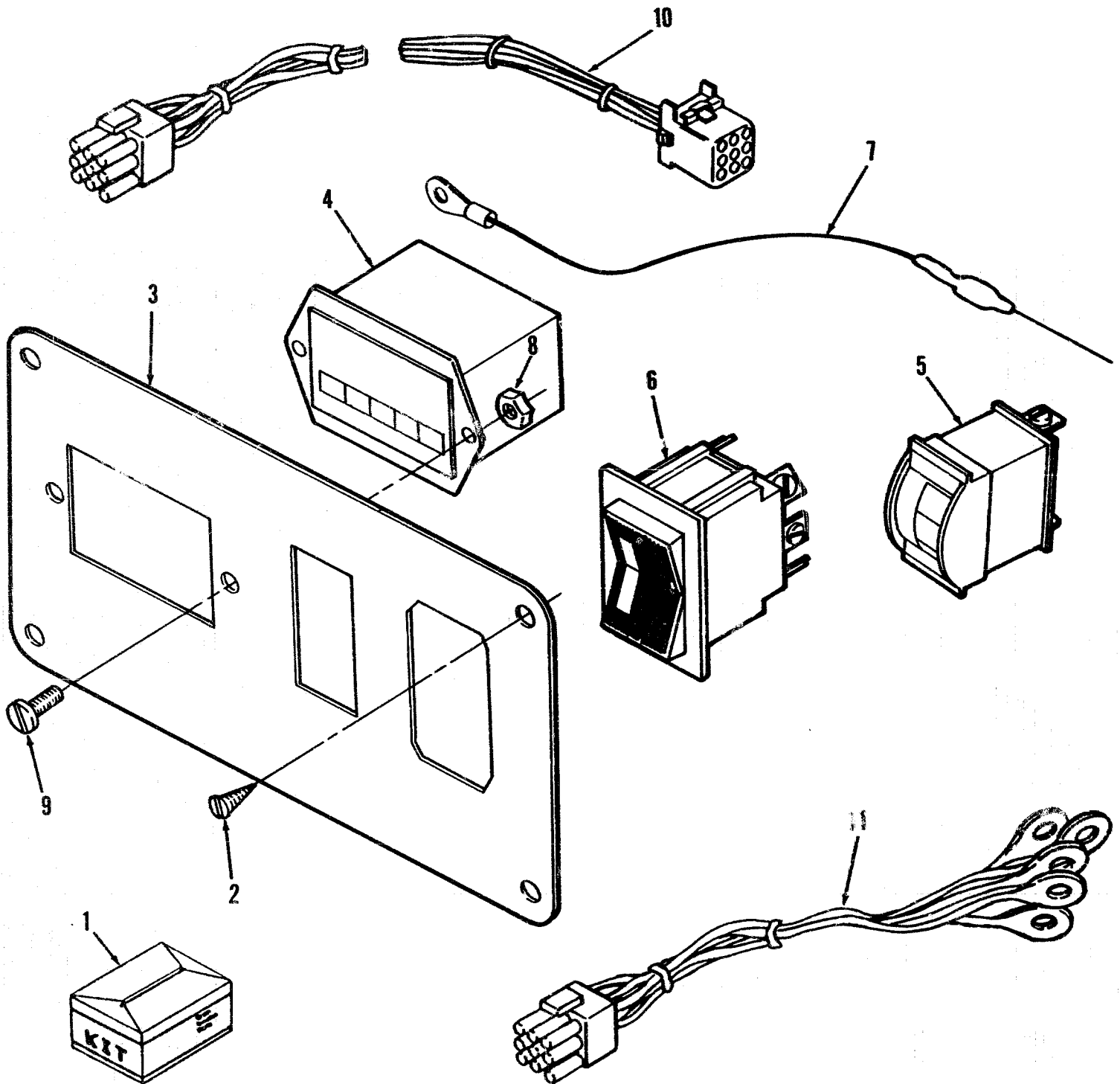


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	300-3468	1	Kit, Panel - Control, Remote (Includes Parts Marked *)
2	308-0827	1	*Switch, Rocker
3	815-0380	2	*Screw, Wood - Oval Head Cross Recessed (#5 x 1/2")
4			Harness, Wiring
	338-2237	1	Fifteen Feet
	338-2238	1	Twenty-Five Feet
	338-2354	1	Forty-Five Feet

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	319-0491	1	*Panel, Control (Does Not Include Front & Back Decals)
	98-5946	1	Decal, Panel - Rear
	98-5949	1	Decal, Panel - Front
6	338-2362-01	1	Harness, Wiring - Remote Control Panel - 5 Wire, 9 Pin
7	338-2102	1	Harness, Remote - 9 Pin, 8 Wire

\* - Parts Included in 300-3468 Remote Control Panel Kit.

## Remote Control Panel (Deluxe)

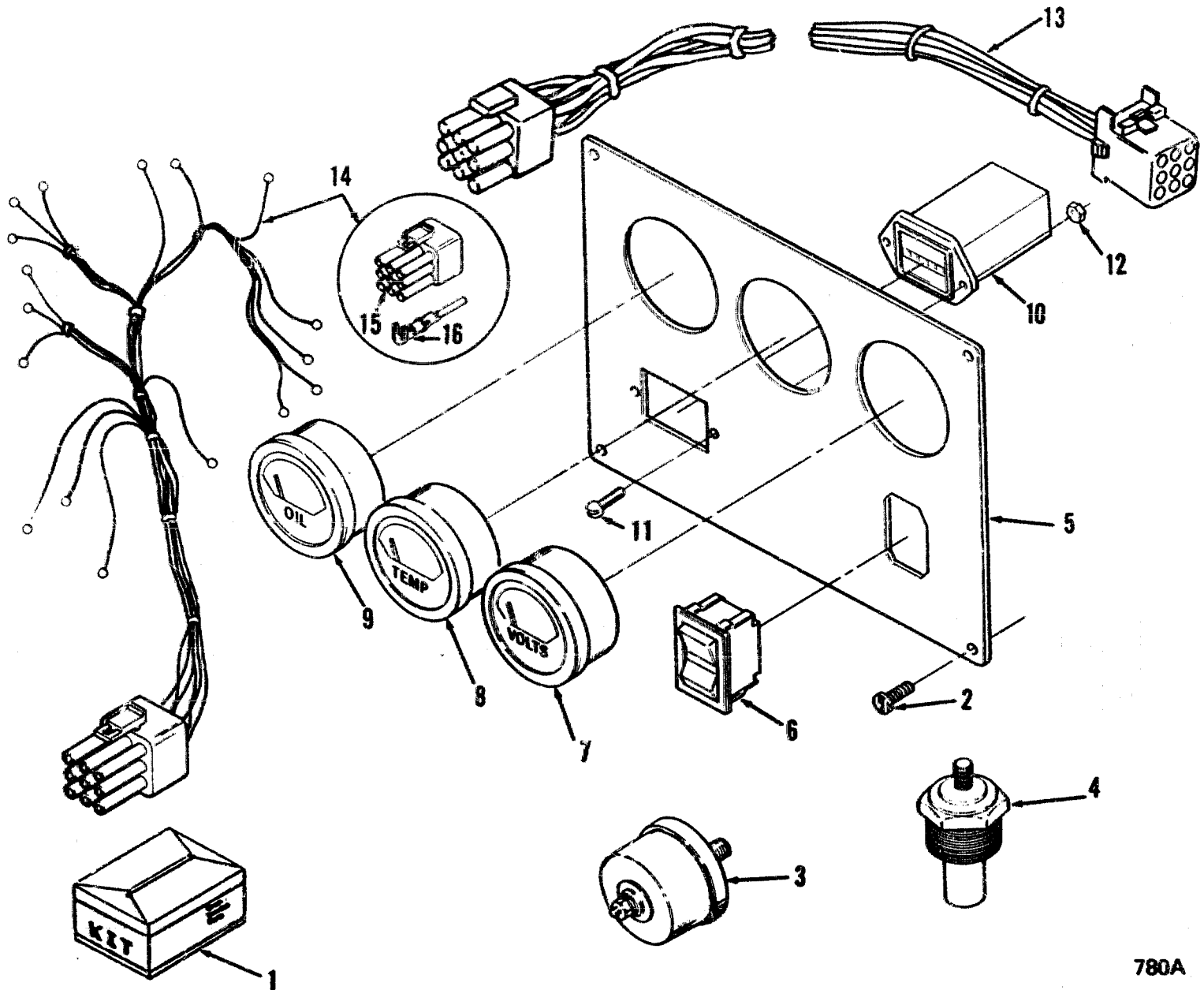


REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	300-3467	1	Kit, Panel-Control - Remote (Includes Parts Marked *)
2	815-0380	4	*Screw, Wood - Oval Head, Cross Recessed (#5 x 1/2")
3	319-0492	1	*Panel, Control (Does Not Include Front & Back Decals)
	98-5944	1	Decal, Panel - Rear
	98-5946	1	Decal, Panel - Front
4	302-0885	1	*Meter, Totalizing - Time
5	302-0888	1	*Meter, Condition - Battery

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
6	308-0827	1	*Switch, Rocker
7	359-0034	1	*Diode and Lead
8	870-0183	2	*Nut, Hex (#6-32)
9	815-0385	2	*Screw, Machine - Round Head (6-32 x 1/2")
10			Harness, Wiring
	338-2237	1	Fifteen Feet
	338-2238	1	Twenty-Five Feet
	338-2354	1	Forty-Five Feet
11	338-2362-01	1	Harness, Wiring - Remote Control Panel

\* - Parts Included in 300-3467 Remote Panel Kit.

# Remote Control Meter Panel Kit

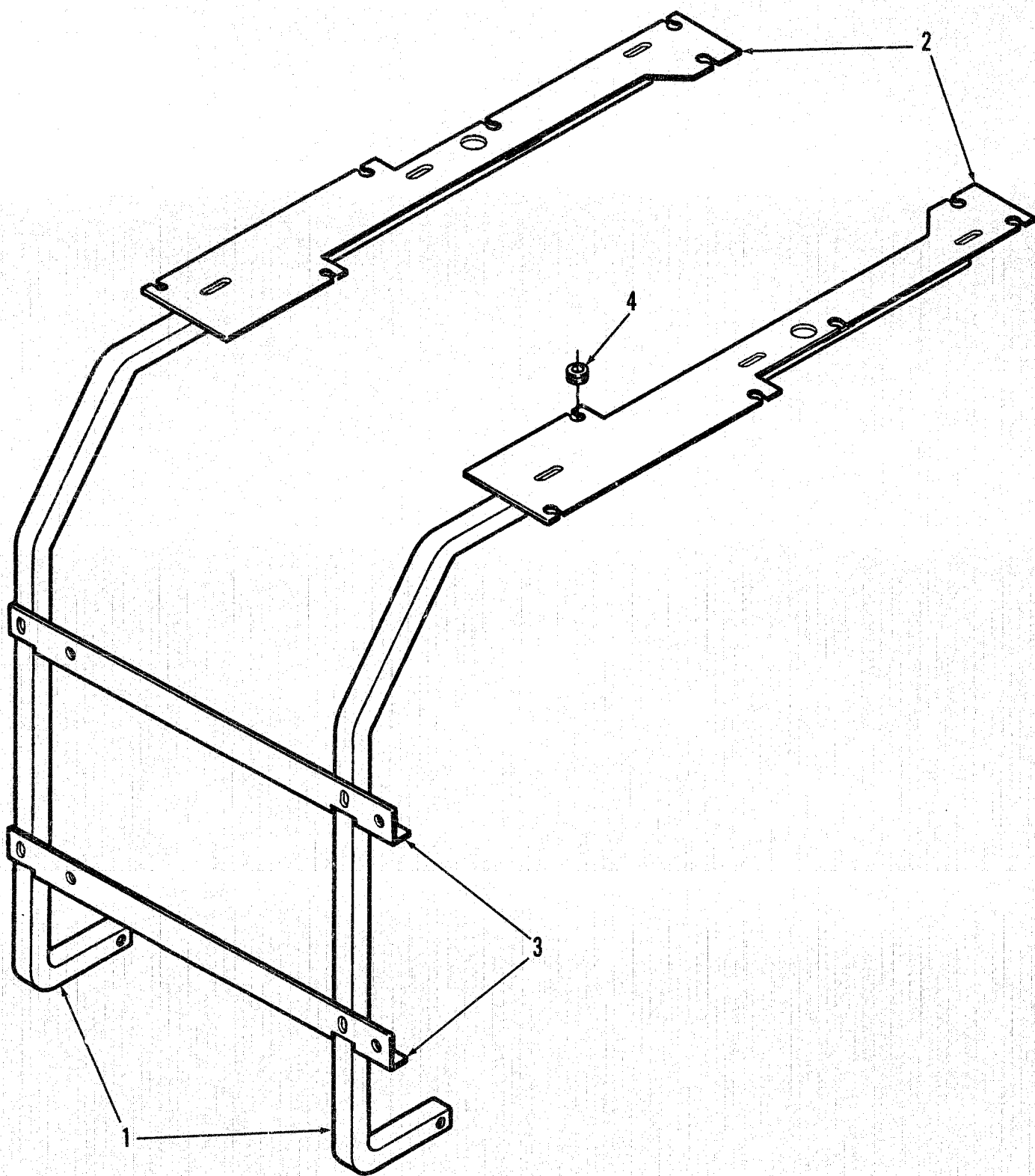


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REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	300-3268		Kit, Meter Panel - Remote Control (Includes Parts Marked *)	9	193-0352	1	†Gauge, Oil Pressure (Includes Mounting Hardware) (M12)
	300-3248-01	1	* Panel, Remote (Includes Parts Marked †)	10	302-0885	1	†Meter, Time Totalizing (M11)
2	808-0023	4	*Screw, Sheet Metal - Round Head (#8 x 1/2")	11	815-0385	2	†Screw, Machine - Round Head (#6-32 x 1/2")
3	193-0244	1	*Sender, Oil Pressure (E1)	12	870-0183	2	†Nut, Hex - With ET (#6-32)
4	193-0388	1	*Sender, Water Temperature (E2)	13	338-2237	1	Harness, Wiring Fifteen Feet
5	319-0141	1	†Panel (Without Decals)		338-2238	1	Twenty-Five Feet
	98-5802	1	Decal - Front		338-2354	1	Forty-Five Feet
	98-5761	1	Decal - Rear	14	338-2222-01	1	Harness, Wiring - Control Panel (Includes Housing and Pins)
6	308-0827	1	†Switch, Rocker (S11)	15	323-1291	1	Housing, Connector (P4)
7	302-1541	1	†Meter, Voltage	16	323-1109	7	Pin, Contact
8	193-0351	1	†Gauge, Coolant Temperature (Includes Mounting Hardware) (M13)				

\* - Parts Included in 300-3268 Remote Meter Panel Kit.  
† - Parts Included in 300-3248-01 Remote Panel.

# Housing Frame



## Housing Frame

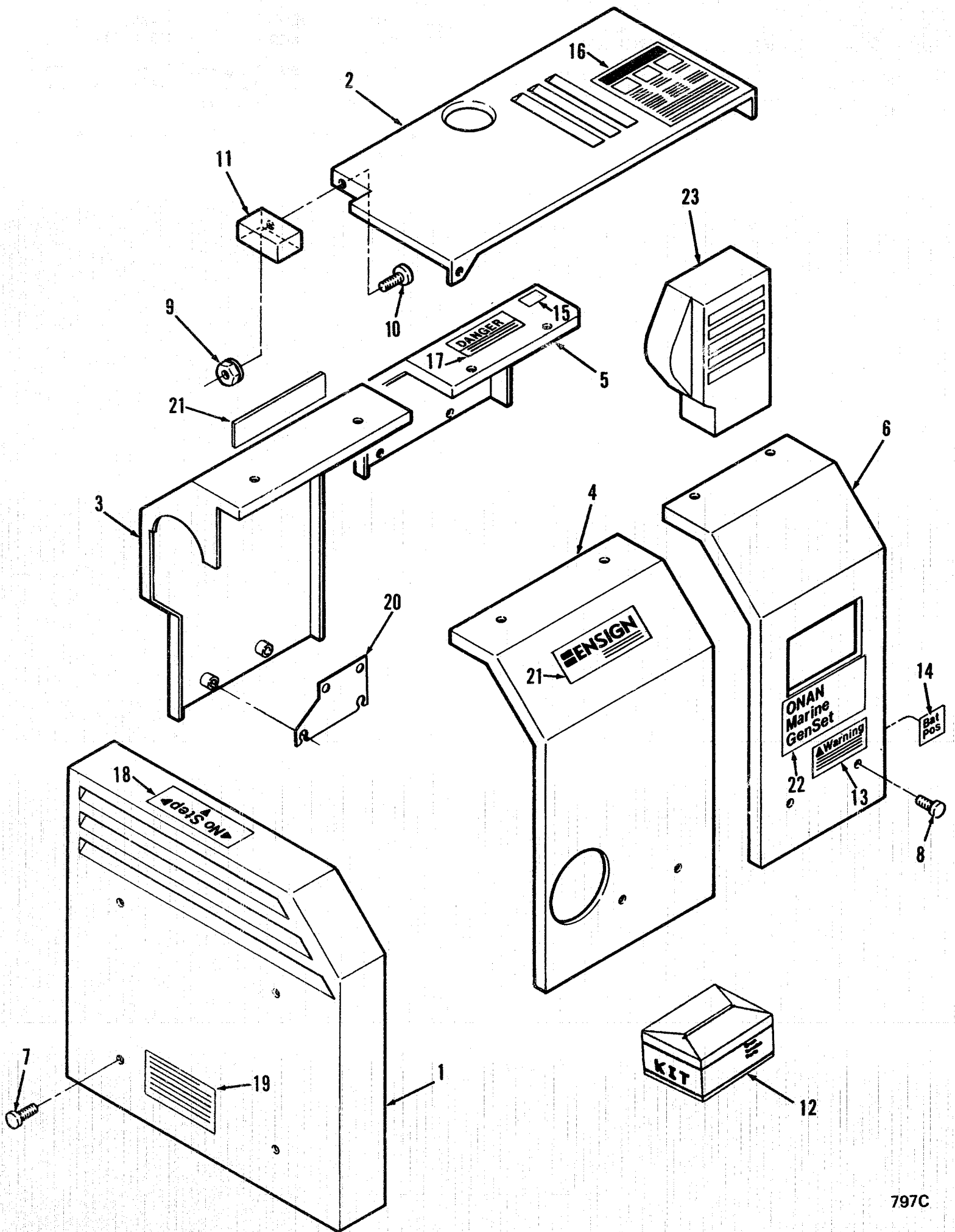
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	405-4317	1	Housing, Frame Assembly (Includes Parts Marked *)
1	405-4228	NFS	*Frame, Support - Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
2	405-4224	NFS	*Bracket, Frame - Housing
3	405-4225	NFS	*Bracket, Front - Housing
4	508-0310	12	*Grommet

\* - Parts Included in 405-4317 Housing Frame Assembly.



# Housing



# Housing

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	405-4138	1	Housing, Guard - Belt	16	98-6156	1	Label, Warning
2	405-4141	1	Housing, Engine (Top)	17	98-5347	1	Label, Danger
3	405-4140	1	Housing, Engine (Left Hand)	18	98-5338	1	Label, No Step
4	405-4139	1	Housing, Engine (Right Hand)	19	98-4508	1	Label, Certification
5	319-0567	1	Cover, Control - AC	20	405-4226	2	Bracket, Side Panel - Single Phase
6	319-0566	1	Cover, Control - DC				
7	815-0765	4	Screw, HD Truss (1/4-20 x 1/2")	21			Silkscreen, Identification Model
8	815-0767	7	Screw, HD Truss (10-32 x 1/2")		98-6150-01	2	For Model 4.5 MCE - Voltage Code A
9	870-0131	2	Nut, Hex - External Tooth		98-6150-02	2	For Model 6.5 MCE - Voltage Code A
10	813-0098	2	Screw, Machine - Round Head (10-32 x 3/8")		98-6150-02	2	For Model 6.5 MCE - Voltage Code B
11	405-4223	1	Cover, Siphon	22	98-6155	1	Silkscreen
12			Kit, Accessory	23	140-2489	1	Resonator
	542-0550	1	Recovery Tank				
	542-0551	1	Less Recovery Tank				
13	98-2899	1	Label, Warning				
14	98-4827	1	Silkscreen, Positive				
15			Silkscreen, Breaker				
	98-6196-02	1	For Model 4.5 MCE - Voltage Code A				
	98-6196-03	1	For Model 6.5 MCE - Voltage Code A				
	98-6196-01	1	For Model 6.5 MCE - Voltage Code B				

# Labels, Paint, Thread Sealant and Gasket Kits

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Silkscreen, Identification - Model	98-6156	1	Label, Warning	
98-6150-01	2		For Model 4.5 MCE - Voltage Code A	98-5347	1	Label, Danger	
98-6150-02	2		For Model 6.5 MCE - Voltage Code A	98-5338	1	Label, No Step	
98-6150-02	2		For Model 6.5 MCE - Voltage Code B	98-4508	1	Label, Certification	
98-6435-01	2		For Model 6.5 MCE - Voltage Code A, B	518-0309	.01 oz	Sealant, Thread	
98-6435-02	2		For Model 4.5 MCE - Voltage Code A, B	518-0347	.01 oz	Sealant, Thread	
98-6435-03	2		For Model 5.0 MCE - Voltage Code A	525-0082	1	Varnish, Insulating, 1 Gallon	
			Silkscreen (Logo)	168-0195	1	Kit, Gasket - Engine (Includes Parts Marked *)	
98-6436-01	1		For Model 6.5 MCE - Voltage Code A, B	101-0040	1	*Gasket - Rear Bearing Plate	
98-6436-02	1		For Model 4.5 MCE - Voltage Code A, B	101-0041	1	*Gasket - Rear Bearing Plate	
98-6436-03	1		For Model 5.0 MCE - Voltage Code A	102-1369	1	*Gasket - Oil Base	
98-6155	1		Silkscreen	103-0810	1	*Gasket - Gearcase	
98-2899	1		Label, Warning	110-3611	2	*Gasket - Cylinder Head	
98-4827	1		Silkscreen, Positive	110-3136	2	*Gasket - Valve Guide	
			Silkscreen, Breaker	110-3604	2	*Seal - Valve Stem 11/32"	
98-6196-06	1		For Model 4.5 MCE - Voltage Code A - 40 Ampere	110-3606	2	*Gasket - Valve Box	
98-6196-07	1		For Model 6.5 MCE - Voltage Code A - 60 Ampere	120-0161	1	*Gasket - Kit - Oil Pump	
98-6196-05	1		For Model 6.5 MCE - Voltage Code B - 30 Ampere	122-0774	1	*Gasket - Oil Filter Adapter	
98-6196-08	1		For Model 4.5 MCE - Voltage Code B - 20 Ampere	123-1470	1	*Gasket - Oil Fill Cap	
98-6196-09	1		For Model 5.0 MCE - Voltage Code A - 25 Ampere	131-0161	1	*Gasket - Water Pump	
98-6197	1		Label, Neutral	140-2485	1	*Gasket - Carburetor Inlet	
98-2575	1		Label, Battery Negative	140-2492	1	*Gasket - Resonator	
98-5397	1		Label, Warning	141-0281	1	*Gasket - Carburetor Flange	
				145-0601	1	*Gasket - Flame Arrestor	
				149-0003	2	*Gasket - Fuel Pump	
				154-2752	2	*Gasket - Intake	
				154-2766	2	*Gasket - Exhaust Manifold	
				155-2413	1	*Gasket - Exhaust	
				309-0186	2	*Gasket - Thermostat Housing	
				509-0008	1	*Seal - Oil (Governor Shaft)	
				509-0040	1	*Seal - Oil (Gearcase)	
				509-0041	1	*Seal - Oil (Bearing Plate)	
				509-0269	1	*Seal - Oil Fill Tube	
				* - Parts Included in 168-0195 Gasket Kit.			

\* - Parts Included in 168-0195 Gasket Kit.

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